THE UNIVERSITY of EDINBURGH

DETERMINANTS OF PROLONGED PSYCHIATRIC HOSPITALIZATION

A THESIS

Submitted for the Degree of Doctor of
Philosophy in the University of Edinburgh

by

ISAM ELTAYEB BABIKER
M.B., B.S. (Khartoum), MRCPsych.

1977

Under other circumstances our townsfolk would probably have found an outlet in increased activity, a more sociable life. But the plague forced inactivity into them, limiting their movements to the same dull round inside the town, and throwing them, day after day, on the illusive solace of their memories .....

Thus, in the middle course between these heights and depths, they drifted through life rather than lived, the prey of aimless days and sterile memories, like wandering shadows that could have acquired substance only by consenting to root themselves in the solid earth of their distress.

Albert Camus - The Plague

SUMMARY

The aim of the study, to investigate prospectively the outcome of an admission cohort of psychiatric patients at successive intervals with special reference to the attainment of long-stay status, was prompted by the lack of such prospective studies in the psychiatric literature. A review of the existing literature revealed that previous studies in the U.K. were largely descriptive accounts of the long-stay patients containing no reference to the factors which determined the continued retention of these patients. On the other hand, because studies on prediction of outcome in terms of length of hospitalization were found to have been carried out largely in the United States and on male patients, the relevance of their findings to the study of the predominantly female British psychiatric hospital population could only be regarded as marginal. However, from the findings of the studies in both countries three hypotheses, relating prolonged psychiatric hospitalization to social disadvantage, severity of illness and early selection, were derived. To test these hypotheses a prospective follow-up study of a total one-year cohort of admissions to the Royal Edinburgh Hospital was designed. For the purpose of the study long-stay was defined as a continuous stay of 12 months in hospital.

A limited amount of data was available on the whole cohort at admission. This was supplemented by data obtained by interviewing 162 patients who remained in hospital for six months. These patients were again interviewed 12 months after admission whether they were still in or out of hospital. Thus a large body of information was available on patients retained for six months. This included socio-demographic data, details of previous psychiatric history, clinical and behavioural ratings,

diagnosis and data on the patients' functioning and prospects as rated by their doctors. These data were used to study the characteristics of patients retained for six months. Successive comparisons of the characteristics of patients who were discharged with those who were retained were carried out to identify the factors associated, firstly with retention for six months and, secondly, with further retention for 12 months.

Patients retained for six months were found to be largely female, elderly, single or widowed and out of work. They received a good deal of support from their relatives. Clinically, they were characterised by the absence of florid symptomatology and the presence of a marked degree of motor retardation and social withdrawal. The factors which determined retention for six months included, for the under 65 age group, being single, living with a first degree relative, being admitted on a compulsory order; and, for the over 65 age group, being over 75 years, having had no previous psychiatric admission and being admitted to a psychogeriatric or rehabilitation ward. A diagnosis of senile or presenile dementia determined continued retention for both age groups. Retention for 12 months, on the other hand, was determined largely by a diagnosis of dementia. For the remaining patients, being elderly, retired or unemployed, not obtaining weekend passes, having no contact with the social worker, being rated as unemployable, difficult to accommodate in the community and requiring permanent institutional care were among the six months' factors determining further retention. Consultants correctly predicted the outcome of the large majority of their patients.

The social disadvantage hypothesis received qualified support

since, of the four parameters, only disadvantage in terms of age and employment was found to be directly related to retention in hospital; the relationship of marital status and living group to outcome proved to be a complex one. The severity of illness hypothesis was supported when diagnosis was used as an index of severity, but not when symptom severity was used as an indicator. The early selection hypothesis was supported in the sense that the majority of the six months patients proceeded to become long-stay. However, stating a definite wish to remain in hospital did not determine the attainment of long-stay status.

The significance of the findings and their implications for the management of these patients and for further research are discussed.

ACKNOWLEDGEMENTS

The author wishes to express his deep gratitude to Dr. Norman Kreitman, Director of the MRC Unit for Epidemiological Studies in Psychiatry, for his invaluable advice and continued supervision and support during all stages of this work. The author is also indebted to all the patients, doctors and nurses who participated in the study, and without whose co-operation this study would not have been possible. Special thanks are also due to Mrs. Joyce Greig whose patience and meticulous typing of the thesis are greatly appreciated.

CONTENTS

Chapter I

INTRODUCTION

In contemporary medical practice institutionalism is a phenomenon which is specially relevant to psychiatry and neurology. This is because in general medicine the prolonged isolation of patients with contagious and chronic conditions such as tuberculosis has long been rendered unnecessary by better treatment and preventive techniques which all but eradicated these conditions. In psychiatry and neurology, on the other hand, some chronic conditions still necessitate the prolonged hospitalization of patients.

In psychiatry, until our understanding of the aetiology of mental illness gains the kind of precision that pathology lends to general medicine and we are consequently enabled to discover more specific and effective therapies, we will have to contend with the fact that the majority of our hospital beds will continue to be occupied by long-stay patients. Recent statistics show that nearly three-quarters of all psychiatric hospital beds are occupied by patients who have been in hospital for one year or more and that 64% are occupied by patients who have been in hospital for 2 or more years (DHSS, 1972). The longer these patients stay in hospital the more likely they are to become institutionalised and the less likely they are to be discharged.

The present concept of institutionalism is that permanent and enduring personal changes may be induced by prolonged residence in relatively closed communities. Prolonged hospitalization is hardly a new phenomenon in psychiatry and, at the time when this was not questioned, the deterioration of patients in mental institutions was attributed solely to their illness. The awareness of the effects of prolonged internment in what used to be a highly structured and under-stimulating environment came gradually to psychiatry and the social sciences. Myerson (1939) described what he termed 'prison stupor'

which, he suggested, interacted with the social retreat of schizophrenia. He related the phenomenon to a motivational and physiological vacuum that operated in the mental hospitals at the time. His observations marked the first attempt to distinguish the effects of illness from those of being in an institution. Bettleheim and Sylvester (1948) noted that emotionally disturbed children in institutions exhibited detachment, isolation, rigidity and passivity which they termed 'psychological institutionalism'. Martin (1955) used the term 'institutionalization' to describe the submissiveness, apathy and loss of individuality which he observed in insitutionalized mental patients. Barton (1959) elaborated on these observations and described 'institutional neurosis' as an illness with distinct aetiology, clinical features and prescribed treatment.

Thus, by the mid 1950s there was enough knowledge about the syndrome to warrant some action. This could not have come at a better time, for in the 1950s an unparalleled confluence of new concepts and novel therapies was changing the face of the discipline beyond recognition, making the decade truly a landmark in the history of contemporary psychiatry. The decade witnessed (a) the introduction of reserpine and chlorpromazine which assisted and interacted with (b) the emerging social model of psychiatric disorder and treatment to facilitate (c) a change of emphasis from custodial care to a policy of early discharge, resettlement and rehabilitation. These developments necessitated and permitted (d) a re-evaluation of existing mental health legislation culminating in the introduction of the Mental Health Act, 1959, (e) a closer look at the role and functioning of the mental hospital from both the social and administrative points of view and (f) a more co-ordinated and advanced effort in the fields of operational and evaluative research.

The impact was immediately felt. In the United States Brill and Patton (1957) reported a significant decline in the mental hospital population of New York State. For 20 years the resident population census showed a constant increase to a peak of 93,000 patients in June, 1955. This was an increase of 2,400 over the previous year. However, by 1956 the trend was abruptly reversed and the census showed a fall of 500 patients. In their well designed study the authors argued persuasively that the decline could be attributed to the large scale application of chlorpromazine and reserpine which began in January, 1955. The report excited a great deal of interest. Kramer and Pollack (1958) were able to confirm that the decrease in 1956 was not confined to New York State and that it was common to most other states. In England and Wales a similar decline in resident hospital population was observed despite a continued increase in the number of admissions (The Annual Abstract of Statistics, 1960). Norton (1961) produced figures from Bexley Hospital which supported the observation and he predicted a continued decline. The decline was generally attributed to the introduction of the phenothiazines but, as Wing and Brown (1970) pointed out, it is arguable whether it was that or the use of social techniques, or conceivably both, which caused the dramatic fall in bed-occupancy. What is certain is that this heralded an era of therapeutic optimism which culminated in the report by Tooth and Brooke (1961) whose prediction of a sustained fall in bed-occupancy was the basis of the Hospital Plan for England and Wales (M.H.S., 1962). The report will be dealt with in detail in the next chapter. Suffice it to say here that, twelve years later, the proportion of beds occupied by long-stay patients is only marginally lower today than it had been in 1961.

With the dramatic effects of the advances of the 1950's having levelled off, we are now left with the problem of what to do with the long-stay patients who continue to accumulate in psychiatric hospitals and how to prevent institutionalization. The mental hospital itself has come a long way from the closed, understaffed, overcrowded and under-stimulating institution which it used to be and which was held responsible for nurturing institutionalism. A policy based on intensive therapy and an emphasis on rehabilitation, early discharge and resettlement is taken for granted in most hospitals. The fact that 95% of all discharges in 1970 (66181 patients) had been in hospital for 6 months or less (DHSS, 1972) must stand as testimony to the success of this policy. But it also indicates, as Jones and Sidebotham (1962) pointed out, that the mental hospital is beginning to function as two separate institutions: one dealing with acute cases with a high turnover rate and another catering for the more 'chronic' cases with a slow turnover. For the latter category the main danger is that of institutionalization, a phenomenon to be reckoned with despite the much improved atmosphere of today's hospitals. However, the search for alternatives to hospitalization for the long-stay patients has so far been disappointing. This is mainly because the residue of patients left after the successful discharge of large numbers of long-stay patients during the fifties and sixties, and the 'new' long-stay patients accumulated since then, have both proved to be hard to place. The needs of these patients, once they have been in hospital for as long as one year, are difficult to cater for in the community.

Thus we know that late intervention does not stand much chance of success. Whether the failure is the result of these patients having been in hospital for as long as one year is not clear but, if this is the case,

then perhaps intervention at an earlier stage would be more successful. However, if we are to do that, we should know a lot more about the long-stay patients. We should have some means of identifying long-stay patients long before they achieve that status.

This is one of the aims of the present work. It sets out to fill in some of the gaps in our present knowledge about the long-stay patient. The next chapter gives an outline of what we do know about these patients.

Chapter II

REVIEW OF THE LITERATURE

ACCUMULATION AND CHARACTERISTICS OF LONG-STAY PATIENTS

(1) Attrition of the Old 'Chronics':

There is hardly any study on the long-stay patient which does not cite the controversial Tooth and Brooke (1961) paper on Trends in the Mental Hospital Population and Their Effect on Future Planning. Another study by Cross and Yates (1961) which gave similar estimates did not receive the same amount of interest, possibly because it was a regional study with limited implications. The Tooth and Brooke paper, however, generated much controversy because it resulted in a policy statement. The Hospital Plan for England and Wales (National Health Service, 1962) which recommended substantial cuts in the allocation of beds for mental illness, from over 3 beds per 1000 population in 1954 to 1.8 beds per 1000 population by 1975, was based largely on the authors' findings and predictions. This caused considerable concern amongst psychiatrists. Some (Lindsay, 1962) took issue with the statistical interpretation of the results while others (Baldwin, 1963) criticised the use of patient movement data for planning purposes because 'to utilise trend data projectively to predict bed requirements for hospital planning purposes results in a circular argument reminiscent of Parkinson's law, since reduction of bed provision will inevitably fulfil the prediction. If, as a result of realisation of the hospital plan for England and Wales, the mental hospital residence rate falls to 1.8 per thousand by 1975, it would be a serious error to suppose this to be due solely to improvements in treatment or provision of alternative types of service, since the rate can fall to this level even in the absence of treatment or other services if the hospital beds are not available.' Other workers (Early and Magnus, 1966; Baldwin and Hall, 1967; Hailey, 1971 and 1973) carried out studies which on the whole

tended to disagree with the official estimates of bed requirement.

Tooth and Brooke examined the attrition rate of the cohort of patients who had been two years or more in the mental hospitals in England and Wales at the end of 1954. They found that discharges and deaths together reduced this long-stay population by 28% for males and 32% for females in 5 years, i.e. by the end of 1959. On the basis of their figures they made two predictions:

(1) that the long-stay population resident at the end of 1954 would be eliminated within 16 years, i.e. by the end of 1970; and, by implication,

(2) that improving the standards within the mental hospital and increasing the community care facilities would result in a reduction in the rate of accumulation of the 'new' long-stay patients.

Lindsay (1962), working with the authors' published figures, pointed out that the rates of death and discharge remained at a constant annual rate and therefore the actual figures for those remaining year by year should be treated as a decreasing geometric, and not arithmetical, series for prediction. According to his calculations Lindsay predicted that about a quarter of those patients might still be in hospital in 1974. Lindsay's views gained support from Baldwin and Hall (1967) who produced figures from the North-East of Scotland hospitals to show that the projected decline of the long-stay hospital population took a curvilinear, rather than linear, shape. A similar observation was made by Norton (1961). The implication, Baldwin and Hall point out, is that 'although the time which would elapse for the population to be halved may be quite short, the time required for complete elimination would be over 50 years.' Early and

Magnus (1966) in a follow-up review of Glenside Hospital population reported a decline of their long-stay patients in four years which, when corrected to five years, approximated Tooth and Brooke's figures. However, they gave no actual figures for the separations. In addition, they employed the same method used by Tooth and Brooke whose adequacy as a predictive technique had already been seriously questioned. Interestingly, they went on to argue that Tooth and Brooke's prediction seemed unlikely to be fulfilled in view of the high rate of accumulation of 'new' long-stay patients. This was in spite of the vigorous industrial rehabilitation policy of Glenside Hospital.

Two studies based on the Camberwell Register again failed to support Tooth and Brooke's contention. The first study (Hailey, 1971) showed that by the end of 1969 there were 152 patients (equivalent to a rate of about 0.9 per 1000 population) who had been in hospital over 20 years and all of whom, according to Tooth and Brooke's prediction, should have disappeared by 1970. The author also applied two different methods of forecasting (Tooth and Brooke's and Lindsay's) to the Camberwell 1964 long-stay (over one year) cohort and concluded that 'in so far as it is possible to predict on a long-term basis, the curvilinear trend seems much more convincing'. Another dimension was added when the discharged patients from this cohort were followed up. Of the 41 patients discharged during the five years 9 were in fact transferred to other hospitals, 10 were readmitted within one year and at most only 19 returned to life outside the hospital on a permanent basis; yet they all contributed to the 'discharge' attrition rate. The second study (Hailey, 1973) examined the 1964 cohort in detail. The death rate was found to be three times the discharge rate and the numbers leaving hospital were slackening over time, the reduction being

more curved than linear. The study also showed that at the end of 1970 there were 164 patients from Camberwell alone with a length of stay of 20 years or more.

The volume of evidence showing the attrition of the old long-stay population to be a slow process is indeed impressive. Equally impressive is the evidence that 'new' long-stay patients continue to accumulate despite the considerable improvements in the standards within mental hospitals and the proliferation of community care facilities. Since studies on the new long-stay are more immediately relevant to this study they will be described in some detail.

(2) Accumulation of the 'New' Long-stay:

The phenomenon of the 'new' long-stay population poses a number of questions:

(1) What is the rate of accumulation of these patients?

(2) Who are these patients and what are their characteristics?

(3) How do they differ from the 'old' long stay?

(4) How do they differ from the short-stay patients?

(5) Are these differences consistent and can they be utilised to predict at a reasonably early stage which patients are most likely to become long-stay?

The first three questions deal with the area of planning and provision of service. Question (1) is quantitative and is essential to planning in terms of bed requirements. Questions (2) and (3) are qualitative and concerned with the particular needs of these patients, the type of service required to fulfil these needs and in what way they may be different from the services already provided for the 'old' long-stay. Questions (4) and (5), on the other hand, deal with the early identification of patients at risk of becoming long-stay. They

are essential for a better understanding of the factors leading to retention in hospital and may suggest possible areas of intervention and prevention.

Almost all the studies on the 'new' long-stay population so far have been confined to answering one or more of the first three questions. However, before examining them in detail it is important to make two points: (a) that, as Hailey (1971) has pointed out, it is difficult to compare the results of these studies because the data are presented in different forms and different criteria are employed for long-stay status and (b) that, although the studies span a short period of time, they may be dealing with different cohorts of patients with different characteristics; so it is conceivable that the 'new' long-stay population of an early study may well be the 'old' long-stay population of another more recent one.

Magnus (1967) reviewed all the patients of Glenside Hospital, Bristol, who attained 'new chronic' status between 1961 and 1964. His criterion for 'new chronic' (or new long-stay) was a length of stay of more than one year. Of all the new patients admitted during that period, 178 patients fulfilled the criterion and were resident in hospital at the time of the review. The annual rate of accumulation, however, was not given and, although he stated that this was a 'considerable number', it was not clear what proportion of all admissions they constituted. The sample was characterised by an excess of females especially in the over 65 age group, who accounted for more than one-third of the sample. There was also an excess of females amongst those patients with a length of stay of over two years. Under the age of 65 two-thirds of the patients were single whereas two-thirds of those aged over 65 had been married. A large proportion of the

latter, however, were widowed. Only 25% of the patients were first admissions and a similar proportion had more than three previous admissions. Over a quarter of the patients, largely males, had no outside support or were never visited. A breakdown by diagnosis showed that schizophrenic illnesses accounted for half and organic states about a quarter of the patients. The latter were mostly females. Nearly half the patients were employed by the hospital's Industrial Therapy Departments or the Industrial Therapy Organization. It was estimated that half the patients required psychiatric hospital care while the rest were considered suitable for other forms of care. The author concluded that the latter were in hospital because suitability for 'after care' was interpreted differently by hospital psychiatrists and local authority officials whose criteria for accepting patients were too exclusive. He urged for greater co-operation between local authorities and hospitals, and utilisation of patients' families' resources if institutionalization was to be prevented.

The study provided useful descriptive information about the characteristics of the 'new' long-stay patients and suggested possible areas of intervention. A limited comparison was made of these cases with the overall hospital population in terms of age and sex distribution and patient legal status. However, such comparison is unlikely to be of much value since the overall hospital population includes 'old' long-stay and 'new' short and medium-stay patients. A comparison with original admission cohorts would have been more appropriate if one is considering the reasons for the continued accumulation of these new long-stay patients.

Affleck et al. (1968) examined the long-term patients resident in

the West House Division of the Royal Edinburgh Hospital in 1957. A re-examination of the long-term population ten years later provided the authors with four groups for analysis and comparison: (a) the 1957 cohort, (b) the 'remainder' of that cohort in 1967, (c) the 'replacements' i.e. those admitted since 1957 and having attained long-term status in 1967, and (d) the 1967 cohort. Their criterion for long-term was a continuous stay of two years or more in hospital. The 'replacements', or 'new' long-stay, numbered 123 patients, 60% of whom were women. There were twice as many men in the under 65 age group, but over the age of 65 women outnumbered the men by 3.4 to one. Organic illness was diagnosed in nearly half the cases and schizophrenic illness in over one-third, the two diagnostic groups together accounting for 85% of all diagnoses. When comparing them with the 1957 cohort (the 'old' long-stay) the authors noted the following trends among the 'replacements': (1) a significant increase in young men and elderly women coupled with a decrease in middle aged men and women, (2) a significant overall increase in organic cases which was more marked among the women who accounted for 70% of the cases thus reversing the ratio previously found in the 1957 cohort, and (3) a significant decrease in schizophrenic cases among females.

The study provides valuable information about the characteristics of the new long-stay patients and indicates a change towards the accumulation of older patients, especially women, with organic illness. It has, however, one major weakness. The findings concern the long-term patients in one division, and not the total long-term population, of a hospital. The characteristics of the patients in the study may well be a reflection of the policies of the particular hospital division and it is conceivable, for example, that whereas older patients with

organic illness were admitted to the West House young schizophrenics were admitted elsewhere in the hospital. A clearer picture of the situation would have emerged if all the long-term patients in the hospital were included. Moreover, by 1967 some of the 'replacements' must have been in hospital for some 11 years and would have been included in the 'old' long-stay of other studies, a fact that prohibits comparison with other studies. Lastly, as with most other studies, there is no comparison with the patients' original admission cohorts.

Mezey and Evans (1968) carried out a survey of all the patients admitted to Claybury Hospital from the boroughs of Edmonton, Enfield and Tottenham during two one-year periods: 1 July 1960 to 30 June 1961 and 1 July 1963 to 30 June 1964. From these two cohorts they studied all the patients who stayed in hospital continuously for more than 6 months. Information about patients was obtained largely from case-notes and supplemented when necessary by interviews. Data concerning the 1960-61 patients were collected retrospectively and only those who were still in hospital at the time of review, i.e. who had remained in hospital for five years, were interviewed. The 1963-64 patients on the other hand were assessed at six months, one year and two years and the reasons for their continued stay noted. For each period the numbers of patients remaining in hospital at six months, one year and two years were given as a proportion of their original admission cohort. These were consistently lower for the second period. For instance, those who remained in hospital for more than six months numbered 104 for 1960-61 and 82 for 1963-64, representing 17.2% and 13.5% of all admissions respectively.

The characteristics of those patients retained for six months were given in some detail. The age distribution for men was bimodal whereas

for women there was a sharp rise in later life, one-third of the men and one-half of the women being 65 or older. Nearly half the men were single compared to only a quarter of the women. A high proportion of the women were widowed. Social class distribution was difficult to obtain because the occupations of many of the 1960-61 patients could not be established with certainty. Only one-third of the men were first admissions and nearly two-fifths had three or more previous admissions, the respective proportions for women being one-half and one-quarter. Schizophrenia, running at two-fifths, was consistently the largest diagnostic category among the men, with organic illness coming second and accounting for more than a quarter. The reverse was true for women, with organic illness accounting for more than two-fifths and schizophrenia for just under one-fifth of the total. However, whereas for the 1960-61 women schizophrenia and affective illness were running equal seconds, in the 1963-64 group schizophrenia was edged into third place by personality/neurotic disorder which accounted for more than one-quarter of the cases, and affective illness was reduced to only 13% of the total.

Next the authors looked at the reasons for remaining in hospital at the four follow-up points of six months, one year, two years and five years, the last being applicable only to the 1960-61 patients. They classified the patients into four groups: (1) those suffering from a psychiatric disorder of sufficient severity to warrant hospital treatment, (2) those suffering from a psychiatric disorder complicated by physical, social or intellectual handicaps, (3) a group of chronic psychoneurotics undergoing long-term in-patient group therapy in a special unit, and (4) those patients whose mental disorder was not

sufficient to warrant prolonged stay in hospital and were retained for physical, social or legal reasons. There were interesting differences in that respect between men and women in the two periods; but it is worth remembering here that whereas information about the 1960-61 patients was extracted from case-notes the 1963-64 patients were actually interviewed at each follow-up point. However, at six months, the proportion of men retained on psychiatric grounds alone was halved from 72.5% in the first period to 36.7% in the second, while the proportion of women in that category remained the same at 58% for both periods. Also, more patients were in hospital in the second period because of psychiatric illness complicated by other handicaps: 33.3% of the men and 25% of the women compared to 12.5% and 21.9% respectively for the earlier period. The proportion of men retained for non-psychiatric reasons rose from 7.5% in 1960-61 to 20% in 1963-64 whereas the proportion of women decreased from 15.9% to 7.7%. However, when both sexes are considered together, the proportion of patients retained mainly on psychiatric grounds (with or without handicap) varied only slightly with length of stay; at six months it was between 82% for 1960-61 and 78% for 1963-64, at two years (1963-64 only) 83% and at five years (1960-61 only) 83%.

This is a methodologically sound and well designed study. From two separate admission cohorts the authors identified and followed up their patients at the appropriate points in time thus providing data on these patients not only after, but also before, they actually attained long-stay status. Their findings confirm that long-stay patients continue to accumulate in considerable numbers; in this instance at least 9% of all admissions remained in hospital continuously for more than one year. The majority of these 'new' long-stay were elderly

demented women and young schizophrenic men, who were largely detained on psychiatric grounds. The general characteristics of these patients and the reasons for their continued retention appear to be similar at all follow-up points, suggesting that the 'new' long-stay are perhaps identifiable at a very early stage. Only a comparison with their original admission cohorts on the same parameters could have clarified this issue; a comparison based on the sex distribution alone is clearly not sufficient.

Mann and Sproule (1972) carried out a similar study in Camberwell. Their aim was to assess the primary and secondary handicaps of patients who stayed in hospital for six months. They argued that the problems of those with organic handicaps were relatively specific and therefore decided to exclude them. Their series included all adult Camberwell patients who, in October 1969, had been resident in hospital from six months to three years in addition to those who attained a six months stay between October, 1969 and June, 1970. As subsequent analysis showed them to be very similar, the two groups of patients were considered together.

The patients were interviewed and their current clinical condition, attitudes and plans for the future noted. An appropriate relative was interviewed by the sociologist in order to rate the patient's behaviour and social performance prior to admission and the relative's attitude and expectations if the patient were discharged. The consultant-in-charge completed a brief questionnaire about the patient. Finally the authors prepared a brief case-summary, a uniform diagnosis and, on the basis of all this material, decided on an 'ideal' disposal for the patient.

The sample was composed of 62 patients, 23 men and 39 women. They

were similar to the general population of Camberwell with regard to residential stability and the proportion of immigrants among them. Their age range was 16-83 years and 29 patients (47%) were ever married; but of these only 13 were living with their spouses at the time of interview. Schizophrenia was diagnosed in nearly half the cases, not surprisingly more frequently in men (61%) than women (33%). Affective disorder was the second largest group over-all and 16 of the 19 patients receiving this diagnosis were women, making it the largest category among them. As far as patients' attitudes were concerned 28 patients definitely wished to stay, two were indifferent, 15 were vague and undecided about leaving and 6 had an unrealistic wish to leave. Attitude to discharge was not related to length of stay. The authors noted that the proportion of those wishing to remain in hospital (48%) was high for such a short-stay group and suggested that it was 'no doubt due to the very high degree of selection which now takes place before a patient stays even as long as six months'. The patients' assessments of their condition also varied. Twenty-three patients thought that they were not ill or handicapped in any way, 11 thought that they were slightly, 9 that they were moderately, and 14 that they were severely handicapped. Some 30 patients had no plans for the future. The psychiatrist and the relatives rated two-thirds of them as having little or no drive. When considering the patients' plans for the future as stated by 24 patients, the psychiatrist and the relatives again reached considerable agreement in rating over half of them as fairly realistic. Relatives were interviewed for 45 patients, a friend or a landlady in 4 cases and in 13 cases there was no interview. Only 17 of the 49 relatives (and informants) felt no marked distress before the patient was admitted to hospital, the rest having experienced

varying degrees of distress or a 'social crisis'. Thirty-two relatives felt they could provide single or shared accommodation and only 9 had no room for the patient. Twenty-nine relatives thought there would be no financial difficulties if the patient were to return home. Patients' attitudes to their relatives were compared with their relatives' attitudes towards them. The patients regarded themselves as being considerably more welcome than was justified by the relatives' response.

The authors then utilised all this information to make recommendations concerning the most satisfactory accommodation for each patient. The patients fell into eight groups according to the type of accommodation required. Their recommendations included hospital, hostels, (supervised or unsupervised), part III accommodation for the elderly, other specified accommodation (e.g. for the blind) and home with relatives. They recommended 17 patients for further hospital treatment and 21 patients for a special ward or a hostel with adequate medical and nursing supervision. The other 24 patients (39%) were considered to be largely recovered and suitable for discharge to alternative accommodation. The authors emphasised the point that these recommendations were based on clinical judgment, that they may have been wrong and that in many cases they could not be tested since the suggested accommodation was not available.

This study, like other studies from Camberwell, has the advantage of an established case register which facilitates comparisons with a base population; and yet the authors appear to have used this facility only to a limited extent. Also noticeable is the fact that they have made no comparisons with original admission cohorts even in the case of the patients who stayed for six months. However, the comparison between those who stayed for six months and those who stayed for 7-36

months is very interesting and is certainly suggestive of a process of early selection. The patients were described in great detail and the authors gave their criteria for diagnosis and classification of symptoms. The level of psychiatric morbidity was high and, since this was the main reason for continued hospitalization, it was inevitable that the recommendations be based on clinical judgment. The 24 patients who were largely recovered and required alternative accommodation certainly pose serious problems. The availability of suggested accommodation, who should provide it and, more important, whether it would actually cater for these patients' needs are questions which went beyond the scope of the investigation.

Since this present investigation was undertaken Hailey (1974) has published a paper on the accumulation of the Camberwell new chronic population in three forms of psychiatric care - inpatient, day patient and hostel care - over the period 1964-72. Her criterion for 'long-stay' was a continuous stay of one year or more in any one of these three forms of psychiatric care. Analysis of the inpatient data by annual cohorts revealed that between 1965 and 1970 the proportions of all admissions who attained long-stay status had been decreasing from 5.2% to 3.5% per annum. However, the figures conceal striking differences between groups of patients. For instance, although the decrease was consistent in the two major diagnostic groups of schizophrenia and dementia, only about 5% per annum of all admissions in the former attained long-stay status compared to about 28% per annum of all admissions in the latter group. By contrast, only 2% per annum of all admissions with other diagnoses became long-stay. The author points out that these figures for the annual rate of accumulation are useful as an indicator of the extent of the current continuing need for long-

stay beds. She distinguishes this from the level of accumulation which is an exact count of the number of all patients who have attained long-stay status during a specified period of time and who are still in hospital at the end of that period. The author observes that the initial build up of new chronics tends, through death and discharge, to flatten off to a plateau after three or four years. Thus, in Camberwell, the level of accumulation from 1967 to 1971 (about 70 patients) was equivalent to a rate of 53 per 100,000 population aged 15 or over. As far as the characteristics of these patients were concerned, the general picture was again that of elderly women and younger men with women outnumbering men by three to one. For both sexes roughly equal numbers received the diagnoses of schizophrenia and dementia, the two diagnostic groups together accounting for two-thirds of the patients. The numbers of male and female schizophrenics were equal while 26 out of 30 patients with dementia were women.

Of the Camberwell day patients 52 (44%) had a length of stay of one year or more, and 38% of these were schizophrenic. These 'new chronic' day patients differed from their inpatient counterparts in that only 14% were aged 65 or over (of whom there was only one patient with dementia) and that their build-up had continued and did not seem to be flattening out. The author points out that similar figures were obtained for Birmingham day patients (Hassall, Gath and Cross, 1972) except that there was a much higher proportion (31%) of elderly patients many of whom were demented. The Camberwell long-stay hostel residents numbered 11 (4 men and 7 women) with one patient aged over 65 and none with dementia.

This study is unique in that the definition of long-term care is widened so as to include day patients and hostel patients who are

technically 'in the community' but who make considerable demands on the psychiatric services. However, since the patients in the three categories were examined separately, any cross-over from one type of care to another would have been obscured. (It is worth mentioning here that the author, in a previous study (Hailey, 1971), had tried another novel approach of attempting to include patients with multiple admissions who had spent a total of 11 or more out of 12 months in hospital, although such patients turned out to be too few to make any significant difference). Over the seven-year period of the study the new chronic patients from Camberwell in the three separate forms of psychiatric care came to 141, equivalent to a rate of 87 per 100,000 and representing a 70% increase over the rate based on inpatients alone. The author commented on the multiple use of these services and suggested that where there is overlap there might be a case for measuring (and adding up) episodes of care, in which case the numbers of patients who could be called 'chronic' would be larger still.

PREDICTION OF LENGTH OF HOSPITALIZATION

Work on prediction of outcome is very scarce in British literature and most of the studies come from the United States where, by 1961, over 800 studies had already been performed on the outcome of schizophrenia alone (Zubin et al., 1961). This interest in the outcome of schizophrenia is understandable since outcome has been one of the original diagnostic criteria of schizophrenia. As Strauss and Carpenter (1972) have pointed out, a variety of outcome criteria including duration of hospitalization, posthospital adjustment, response to treatment and remission or relapse have been employed by different

workers. However, since we are concerned here mainly with length of hospitalization as an outcome criterion, only a few of these studies will in fact be relevant to this review. More relevant still will be those studies dealing with prediction of length of hospitalization in all types of psychiatric patients.

Lindemann et al (1959) in a well designed study attempted the use of demographic characteristics to predict length of neuro-psychiatric hospital stay. They wanted to develop an index predictive of chronicity based on data collected at the time of admission which would permit a comparison between the 'quick discharge' and the potential chronic population. In this index they included 21 variables selected from previous literature on prognosis. Information relevant to these variables was then extracted from the initial psychiatric summaries of all male psychiatric patients admitted to a large Veterans Administration hospital between July 1, and December 31, 1954. A previous study at the same hospital (Giedt and Schlosser, 1955) had revealed that 61% of admitted patients left the hospital during the first 90 days, 25% during the next 15 months and only 2% during the remaining 24 months covered by the study. This suggested to the authors that the cut-off point of 90 days might have psychological as well as statistical significance and they consequently used it to divide their sample into a short stay (90 days or less) and a long stay (90 days or longer) group.

Their sample consisted of 248 patients: 120 short stay and 128 long stay. Six of the 21 variables studied - diagnosis, degree of incapacity, legal competence, history of alcoholism (scored whenever alcohol was mentioned as contributing to the need for hospitalization), marital status and combat experience - served to differentiate the two

groups beyond the .05 level of confidence. Two more variables - per cent of service connection and occupational classification - also differentiated the two groups but did not reach statistical significance level. They were, however, retained in the original predictive index which was then formed of these eight variables. For each item the probability of a patient's falling in the long stay group was computed and the log of each probability value was then ascertained. Each patient was then assigned a score which was the sum of the eight log values that applied to him. The scores thus computed for all cases ranged from $\bar{5}.75$ to $\bar{2}.25$. Below an arbitrary cut-off point of $\bar{4}.25$ were 75 cases of whom 85.3% were in the short stay group, and above $\bar{2}.75$ were 89 cases of whom 85.4% were in the long stay group. Thus the index served to 'predict' long or short stay for 66.1% of the sample with a high degree of accuracy.

The next step was to cross-validate the index on a sample of 1955 admissions and for this purpose data were collected for all male patients admitted to the same hospital between January 1, and June 30, 1955. The same scoring procedures and cut-off points were employed with this sample of 209 cases. Below $\bar{4}.25$ were 69 cases of whom 87% were in the short stay group, and above $\bar{2}.75$ were 76 patients of whom 78.9% were in the long stay group. The authors thus concluded that the index based on 1954 admissions could have 'predicted' length of stay for 69.4% of the 1955 admissions with 82.8% accuracy. However, in calculating the differential power of the individual variables on the cross-validation sample, occupational classification service connection and combat experience failed to reach statistical significance level and were therefore excluded

from the final revised form of the index which now contained the following variables:

Marital status

Diagnosis

Degree of incapacity

Legal competence

History of alcoholism.

Each of these variables served to differentiate short or long stay patients in the combined sample of 457 patients at the .001 level of confidence. Being single, psychotic, severely incapacitated, legally incompetent and non-alcoholic were associated with a significantly high probability of being long stay. The authors made some speculations on the psychological implications of the different variables. For example, they suggested that underlying being single might be a differentiating adaptive factor: the other categories (married, widowed, separated and divorced) had at some time in their lives formed a relationship with another person and perhaps possessed greater personal resources.

This is the first published study dealing with prediction of length of psychiatric hospitalization. It is methodologically sound and the authors chose simple and easily obtainable variables for investigation. Like most other early studies on prediction of outcome, the investigation has been restricted to male patients. This leaves the question open as to whether their predictive index is applicable to female patients.

Anker (1961) emphasized the need for improving the means of identifying potentially chronic patients so that new or more intensive treatment procedures might be devised to shorten their

stay. Rather than using demographic data, he argued, these identification procedures should be based on personality characteristics and more capable of suggesting specific types of treatment aimed at reducing chronicity. To achieve this he set out to develop and validate a predictive scale based on the MMPI. As a first step he made a retrospective study of MMPI protocols of two groups of male patients drawn from a large Veterans Administration hospital: a short-term group who stayed in hospital for up to six months (n = 103), and a long-term group who remained for one year or longer. Chi square analysis of this original sample produced 55 items which significantly differentiated these two criterion groups. For cross-validation purposes MMPI protocols were obtained from a number of VA hospitals. These were divided in the same way into a short-term group of 144 and a long-term group of 123 and the data were then analysed for the 55 items which differentiated the criterion groups in the original sample. The cross-validating item analysis produced 21 items which significantly differentiated the two criterion groups. These 21 items formed the basic scale and, weighted according to their discriminatory ability, were all allotted a score of 1 except for item 35 ('If people had not had it in for me I would have been much more successful') which warranted a score of 2.

Protocols for the group that stayed between 6 and 12 months were then combined with protocols for the two criterion groups giving a total sample of 358 with varying durations of stay. This sample was then successively dichotomised, according to duration of stay, at 3, 6, 12, 18 and 23 months and the frequency distributions of chronicity scale plotted for each duration of stay group. The

scale discriminated between all duration of hospitalization groups.

The main weakness of this study is the sampling procedure adopted because the main condition for inclusion in the study appears to be that an MMPI protocol had been completed by the patient. The author does not state whether the MMPI was routinely administered to all patients in the hospitals concerned at the time. If this were not the case then the sample is clearly non-representative and the results tell us more about the kind of patient to whom the MMPI would be administered. This is perhaps inevitable as a first step in a retrospective study of this sort, but to use the same sampling procedure for cross-validation purposes is meaningless. For example, the fact that the number of items which differentiated the two criterion groups shrank from 55 to 21 may not be a reflection of the validity or otherwise of the different items. It may simply be a reflection of differences between patients solely in terms of who gets to complete the MMPI in different hospitals. Moreover, going over the items comprising the scale one is left wondering in what way the information contained in them can suggest 'specific types of treatment procedures aimed at reducing chronicity' which was one of the stated aims of the study. The author promised to publish the result of factor analysis which would provide some notion of the underlying 'roots' of chronicity. Insofar as I am aware no further report has been published by the author.

Sherman et al (1964) in a follow up study of 588 newly admitted schizophrenic men tested the predictive validity of 33 social, psychiatric and psychological data against duration of hospitalization over a three-year period. They allocated the patients to 3 major outcome categories: (a) a success group (n = 129, 22%) composed of

patients who left hospital within 6 months and were never readmitted to any hospital during the rest of the three years, (b) a failure group (n = 60, 10%) composed of patients who remained in hospital throughout the three years, and (c) a partial success group (n = 397, 68%) composed of patients who left hospital after 6 months whether or not they were readmitted afterwards. Only four individual study variables were significantly related to outcome. Previous hospitalization(s), single status and total score on the Multi-dimensional Scale for Rating Psychiatric Patients (MSRPP) all had a significant negative relationship to outcome. The relationship of the fourth variable, psychiatrists' prediction of outcome, to outcome was more complex. The psychiatrists were more successful in predicting failures than successes, correctly predicting 67% of the former and 25% of the latter. This was partly due to the fact that the psychiatrists had originally predicted that many more patients would fail (279 cases) than would succeed (78 cases). Having identified these four discriminators by simple chi square, the authors then proceeded to study the relationships between all 33 variables by multiple regression. For this they used data on 100 successful patients (less than 55 days in hospital) and 100 failure patients (more than 897 days in hospital). This produced a subset of six variables,

Likelihood of self-support

Withdrawal (MSRPP)

Weight

Release to what setting

Participation in activities

Chronicity,

which 'predicted' success/failure almost as well as the total 33 variables. Favourable prognostic signs were: high likelihood of self-support, low withdrawal, low weight, released to own custody, less participation and less chronicity. The authors noted that none of the four individual variables which they found to be significantly related to outcome were included in this subset. Using marital status as an example, they demonstrated that it correlated with withdrawal and the likelihood of self-support, each of which was better related to the success/failure criterion. They went on to emphasise that 'variables examined individually may seem important because they share something with other variables that are fundamentally more related to the criterion'. Lastly, discriminant function weights on all 33 variables were computed and each of the 200 patients was given a single score. If the individual's weighted score was above a certain unspecified value success was predicted and if below that value failure was predicted. Using this method outcome was correctly predicted in 79% of the cases. However, instead of validating this on a different sample of patients the authors recalculated the weights, using the same method, for half the sample and again correctly predicted outcome in 79% of the cases; then, using the other 100 patients as a cross-validation sample, they applied the same weights and correctly predicted outcome in 63% of the cases.

This study is well designed and provides a valuable demonstration of the different ways in which outcome can be viewed and measured, and illustrates the different techniques of arriving at a set of predictors. However, it is not clear why, after producing a simple subset of six variables which it was claimed 'predicted' outcome

almost as well as the total 33 variables, no attempt was made at cross-validating these variables. Nevertheless, the findings clearly contribute to our understanding of the factors involved in prolonged hospitalization and show withdrawal to be the single most important measure in predicting length of hospital stay.

Johnston and McNeal (1964) used a similar design to test the value of combined MMPI and demographic data in predicting length of hospitalization. Their sample was made up of consecutive male admissions to a large Veterans Administration hospital over the period of two years. Patients admitted during the first year (n = 316) constituted the experimental sample and data gathered from them were used to study intercorrelations between the different items and MMPI scales and the predictive power of these variables measured against length of hospitalization. Three intervals were used initially to measure length of stay: 0-3 months (short-term), 4-12 months (middle-term) and over 12 months (long-term). However, when subsequent analysis showed middle and long term patients to be quite similar these two intervals were combined and the final criterion became a stay of up to three months (short-term) or 4 months or more (long-term). A variety of statistical techniques including multiple regression analysis was applied to the data based on the experimental sample to identify those psychometric measures and demographic variables which best predicted length of stay. Of the nine scales (all based on the MMPI) and three demographic variables studied only six qualified for inclusion in the final predictive index according to their discriminating power. These were: (a) Anker's 55-item Chronicity Scale, (b) Meeker's Chronicity Scale, (c) Meehl-Dahlstrom non-applicable rule, (d) MMPI peak score on scale Sc

(schizophrenia) or Pa (paranoid), (e) Marital status, and (f) Psychotic diagnosis. Longer hospital stay (4 months or more) was positively related to

Single status

Psychotic diagnosis

Score of NA on Meehl-Dahlstrom's Scale

Score of 19 or more on Anker's Scale

Score of 7 or more on Mecker's Scale

High Pa or Sc scores on the MMPI

The predictive value of these six variables was evaluated by five separate methods and the results were quite similar. When applied to the cross-validation sample of 352 patients (made up of admissions during the second year) the correct predictions ranged from 67.9% to 74.4% depending on the method used.

The study does not appear to have added much to the previous one by Lindemann et al (1959). As the authors themselves point out, all six variables are related to psychopathology in one way or another. Furthermore, all the scales are based on the MMPI with a substantial degree of overlap between them. The authors conclude that 'each of the individual scales may make a contribution to prediction, but they are essentially alternate forms of a severity of psychopathology measure. Their contributions to prediction are apparently overlapping and not additive'. They also suggest that additional information concerning the patient's expectations, his relatives' tolerance and the hospital milieu, which is not available at the time of admission, may also be of relevance.

Fulton and Lorei (1967) used the Minnesota-Briggs History Record (M-B), a lengthy multiple choice social history questionnaire completed

by patients' relatives, to study more comprehensively the relationship between history variables and length of continuous hospital stay. Their sample of 192 patients included all admissions to the VA Hospital, St. Cloud, Minnesota during a twelve-month period with the exception of those who were over 60, or who carried a diagnosis of C N S pathology, or who had been hospitalized during the six months prior to admission, or for whom a usable history record was not obtained. Fifty-eight per cent of the patients were never married and 70% were diagnosed as schizophrenics. The return rate of usable history records was 88% and mothers of patients completed 68% of the forms. Only 136 M-B items which were applicable to all patients were chosen for analysis. Marital status, rural-urban residence and diagnosis were also included bringing to 139 the number of variables studied. The criterion, length of stay, was defined as the number of weeks spent continuously in hospital during the first year.

Twenty-six items which were significantly related to the criterion, plus nine which approached significance, were included in a stepwise regression analysis. This produced a set of 15 predictors with a multiple correlation of .68 which was not increased significantly by additional variables. These predictors, their favourable direction indicated, were:

Marital status (married)

Ease of learning in school (easy)

Drug addiction (addicted)

Length of onset (short)

Good judgment in handling money (absent)

Residence prior to hospitalization (rural)

Diagnosis (non-schizophrenic)

Younger than classmates (yes)

Freedom as a child to visit away from home (restrictive)

Church attendance (frequent)

Concern about weight (concerned)

Maternal dominance at home (higher)

Source of family income (father)

School behaviour (problematic)

Number of schools attended (many)

The sex distribution of the sample was not reported in the study and the authors gave no indication as to whether there were differences between the sexes with regard to factors affecting length of hospitalization. Also, although patients who had been hospitalized during the six months prior to admission were excluded, no mention was made of whether history of previous hospitalization was taken into account. Furthermore, the unusually high proportion of diagnosed schizophrenics in the sample must raise questions about the validity of these prognostic indicators when applied to other more heterogeneous samples of patients. Nevertheless, and despite these reservations, the authors have investigated several life history variables which have so far not been studied in relation to length of hospital stay. It is interesting to note that, in some way or other, several of these variables can be related to withdrawal (or, rather, its absence). This may lead one to speculate that activity, regardless of social desirability, is a favourable prognostic sign.

SUMMARY

There is now clear evidence that the attrition of the old 'chronic' population of psychiatric hospitals is continuing at a much slower rate

than a decade or two ago. This gives some credence to the thesis that the rapid rate of attrition of the mid-fifties has left a 'hard-core' group which is growing older in hospitals and is being reduced largely through death and not discharge. The consensus seems to be that the decline of the 'old' long-stay cohorts has taken a curvilinear shape and it may indeed take many years for their complete elimination.

Meanwhile 'new' long-stay patients continue to accumulate in psychiatric hospitals in substantial numbers. Using one year as a measure of 'long-stay' as is now generally accepted, they are doing so at a rate of about 5% per annum of all admissions. The likelihood of discharge decreases the longer a patient remains in hospital, and the literature suggests a process of early selection of these 'new' long-stay patients, perhaps by six months or even earlier. However, so far no study has compared these patients at high risk of becoming long-stay, or even those already long-stay, with their original admission cohorts. Such a comparison is essential for a better understanding of factors affecting retention in hospital and until it is carried out our knowledge in this area will remain incomplete.

With regard to the characteristics of these 'new' long-stay patients, their sex distribution shows a consistent predominance of females over males especially in the over 65 age group. Whether females are more at risk of becoming long-stay than males is not entirely clear. Those suffering from schizophrenia and dementia constitute by far the majority of these patients, but others suffering from seemingly minor psychiatric disorders are becoming long-stay in increasing numbers. The type and severity of illness appear to play a large part in determining continued retention in

hospital, but many patients are being retained for social, physical and legal reasons. Lack of suitable accommodation in the community seems to be the main reason for keeping this latter group in hospital, and there appears to be little agreement between health and other authorities on what constitutes suitable accommodation or who should provide it.

Most of the studies on prediction of length of hospitalization have been carried out in the United States and based on male patients. For workers in the United Kingdom, considering cultural and diagnostic practice differences and the fact that here women constitute the majority of long-stay patients, the results of these studies can only be regarded as tentative. However, among the various variables studied withdrawal, marital status, onset and severity of illness, diagnosis and a history of alcohol or drug addiction appear to be of particular value in 'predicting' length of hospitalization. The results of studies based on psychological data are on the whole inconclusive.

Chapter III

AIMS, DESIGN AND METHODOLOGY

I. AIMS

What makes some patients stay in hospital longer than others? From the previous review it is clear that length of hospital stay is a complex phenomenon determined by a variety of factors to which the patient's background, his illness, his hospital experience and the support systems available to him in the community all make a contribution. The characteristics of patients who are already long-stay are fairly well documented, but inferences based on these characteristics alone are of limited value in understanding what made these patients become long-stay in the first place. Equally, they are of limited value in the early identification of these patients which is necessary for early and effective intervention. What is needed is a prospective study of a total admission cohort of patients followed up at regular intervals for at least one year, identifying at each follow-up point those remaining in hospital and comparing them to those who are discharged. Hailey (1971) has shown that two-thirds of all patients leave the hospital within 2 months of admission and that after 6 months the probability of leaving is low. Six months is thus a convenient follow-up interval, late enough to allow most of the short-stay patients to be discharged and yet only halfway to the attainment of long-stay status. A detailed follow-up study of patients retained for six months should, therefore, provide useful information, so far lacking, about the long-stay patient in the making.

Thus the main aims of the present investigation are:

(1) To describe the social characteristics of patients retained continuously in hospital for six months, their previous psychiatric history and their hospital experience.

(2) To compare these patients with the rest of the original admission cohort so that factors determining retention for six months can be identified.

(3) To investigate the eventual outcome of these patients with particular reference to determinants of further retention for one year.

(4) To explore the possibility of utilizing the results of these comparisons to construct a scale for prediction of length of hospitalization.

II. DESIGN

A one-year admission cohort will be studied with data collected as detailed below.

(1) On Admission

The hospital's computerised data collection system will be used for selected items of information concerning the admission characteristics of all patients.

(2) At Six Months

(a) Information will be obtained at six months after admission for all patients still in hospital, concerning their background and circumstances of referral and admission. This will serve to amplify and supplement information obtained from the data collection system. In addition, their previous psychiatric history and hospital experience in the six months since admission will be detailed.

(b) The patients will be interviewed by the author to assess their current clinical state and to arrive at a diagnosis. The patients' desire to leave the hospital will be noted.

(c) Ratings of the patients' behaviour at six months will be

obtained from the appropriate charge nurses. The psychiatrist in charge will be asked to give his diagnosis, explain why the patient is still in hospital and make a prediction of the patient's prospects of leaving the hospital.

(3) At 12 Months

An attempt will be made at tracing and interviewing all the patients seen at six months. Current placement, treatment received or being received and level of social and occupational functioning shall be noted. Current clinical state will be assessed and a final diagnosis made for comparison with earlier data.

Analysis of this data will be geared towards:

(i) Describing the characteristics of patients who remained in hospital for six months.

(ii) Comparing these patients with the rest of their admission cohort and identifying the factors which differentiate them.

(iii) Comparing the characteristics of those patients who, after the six months stay, have remained in hospital for yet another six months (thus becoming long-stay) with those who have been discharged, identifying the factors associated with attaining long-stay status.

(iv) Contrasting the clinical state and social abilities of patients continuously resident for 12 months with those patients discharged from hospital between 6 and 12 months after their admission.

(v) Constructing two predictive scales based on the significant discriminators in (ii) and (iii) above, one 'predicting' six months and the other 12 months stay.

III. HYPOTHESES

The present study is, at least in part, explorative. As is clear from the review of the literature, and due to the lack of systematic studies in this area, the range of hypotheses that can be put forward to be tested is relatively limited. The following hypotheses have been derived from studies of characteristics of long-stay patients. They fall into 3 areas

(1) Social Disadvantage

(a) Being over 65, single or widowed, unemployed or retired, and/or isolated from family and friends will be associated with more likelihood in the first instance of retention for 6 months and later on of becoming long-stay.

(b) Social withdrawal will be significantly related to attainment of long-stay status.

(2) Severity of Illness

(a) A psychotic illness diagnosis will be associated with more likelihood of becoming long-stay than that of neurotic illness or character disorder.

(b) Higher scores on symptom severity measures will be associated with more likelihood of becoming long-stay.

(3) Early Selection

(a) The majority of patients retained for six months will in fact proceed to become long-stay.

(b) At six months, stating a definite wish to remain in hospital will be associated with a significantly increased likelihood of becoming long-stay.

IV. GENERAL METHODOLOGY

(1) Background to the Study

The Royal Edinburgh (R.E.H.) is a large psychiatric hospital serving the total adult population of the City of Edinburgh except for about one-third of the population over 65 in the north-west of the city. During the period of the study the hospital had a compliment of just under 1000 beds. Considering that the total adult (over 15 years) population at the time was a little over 370,000 (R.G.O., Edinburgh), the city enjoyed a ratio of about 2.6 beds per thousand population, which is better than the national average.

The hospital has 45 wards which are customarily grouped according to the function they serve. There are six 'special units' made up of 4 professional wards, a unit for treatment of alcoholism and a young people's unit. There are 6 acute admission and 13 psychogeriatric wards; and sixteen wards are designated rehabilitation wards although some of them are predominantly long-stay wards. The four remaining wards include an intensive care unit, a sociopathic unit, a nursing home for the elderly and a research unit with special interest in depressive illness.

A computerised data collection system (CDCS) for the R.E.H. in-patients has been in operation since 1970. Admission and discharge data are collected routinely for all patients and where relevant, depending on length of stay, review data is also collected at three, six and 12 months and annually thereafter. The admission, discharge and review forms are completed by the registrars and then checked and signed by the consultants before they are returned to the data collection office. Data concerning the same patient which may refer to several admissions is linked in such a way as to facilitate longitudinal type of analysis

required for follow-up studies.

The system is run by a committee which exploits the data and publishes regular reports for internal circulation to the hospital staff. The accumulation of long-stay patients as revealed in these reports have become a source of concern to psychiatrists in the R.E.H. as indeed have similar statistics published elsewhere. Being a member of the committee, the author has felt the need for further research in this area since it was becoming clear that the mere statistics were of little assistance to the psychiatrists actually in charge of these patients.

(2) Definitions

(a) The Admission Cohort

This refers to all patients 15 years of age or over who were admitted to the Royal Edinburgh Hospital during the twelve months period from 1st July, 1974 to 30th June, 1975.

(b) The Six Months Sample

This includes all the patients from the admission cohort who stayed in hospital continuously for 6 months. The remainder of the admission cohort are referred to as short-stay patients.

A continuous stay was operationally defined as a spell of inpatient care uninterrupted by discharge or, in the case of compulsory patients, by a period of leave of absence. Temporary transfers to other hospitals and home trials for periods not exceeding seven days were not counted as discharges.

(c) The Long-stay Patients

This refers to those patients who stayed in hospital continuously for twelve months or more. A continuous stay was operationally defined analogously to (b) above. The remainder of the six months sample, i.e. those who stayed more than 6 but less than 12 months, are referred

to as medium-stay patients.

(3) Instruments

The data was obtained from two sources. Firstly, admission data relating to the admission cohort was obtained from the CDCS. This data was initially collected using two Admission Forms, one completed by the medical records staff and covering routine social and demographic data, and the other completed by the registrar on the admission ward and containing such additional items of information as work status, living group and details of the most recent psychiatric history in addition to a provisional principal and secondary diagnosis (see Appendix B). Secondly, information about the patients was obtained using two semi-structured interview schedules: an initial one at six months and a follow-up one at twelve months (see Appendix B). The following instruments (see Appendix A) were used:

(a) Symptom Rating

The current clinical state was assessed at six and twelve months using the Brief Psychiatric Rating Scale (Overall and Gorham, 1962). The BPRS was developed to provide a rapid method for assessing treatment change in psychiatric research. It contains 16 clearly defined major psychiatric symptom constructs each of which is rated on a 7-point scale. A 'total pathology score' was obtained by adding up the score on the 16 scales. The authors originally recommended the use of two independent raters and averaging their scores to increase the reliability of the ratings. However, a later study (Overall, Hollister and Dalal, 1967) showed that for the BPRS inter-rater error was not a major source of unreliability. The standard interview procedure and scoring method were adopted in the present study.

(b) Diagnosis

At six months the registrars were asked to provide a diagnosis based on the Eighth Revision of the International Classification of Diseases (General Register Office, 1968). This was termed the Hospital Diagnosis. In addition a Research Project (RP) Diagnosis was made by the author at six and twelve months using Feighner's diagnostic criteria (Feighner et al, 1972). These provide clear operational definitions for 15 major diagnostic categories.

(c) Staff Ratings

The Ward Behaviour Scale (Wing, 1961) was completed for each patient at six months by the ward sister or charge nurse. At 12 months, however, it was completed only for those who were at that stage inpatients or day patients. The scale consisted of 12 items and was originally constructed for the purpose of measuring change in the behaviour of chronic schizophrenic patients during courses of rehabilitation. However, its use was extended in the present study to all categories of patients, the rationale being that the forms of behaviours measured by the scale are not restricted to schizophrenics. A 'Socially Embarrassing Behaviour' (S.E.) Score was obtained by adding up the score on four items: 3. Overactivity, 7. Laughing and talking to self, 8. Posturing and mannerisms, and 9. Threatening or violent behaviour. The sum of remaining items' scores made up the 'Social Withdrawal' (S.W.) Score.

The registrars were asked to rate the patients at six months on a 4-point scale covering the areas of employability, availability of accommodation and clinical condition. At the same time the consultants were asked simply to predict whether the patient would still be in hospital 12 months after admission.

(4) Pilot Studies

The first step was to estimate the numbers of patients involved. To do this successive review data from the CDCS were obtained for all the patients admitted to the R.E.H. during 1970. These were analysed to determine (a) the proportion of patients still remaining in hospital at the end of three, six and twelve months, and (b) the reasons given by doctors for their continued retention. The number and proportion of patients remaining at each review point are given in Table 3.1.

Table 3.1

1970 Admissions: Distribution by Length of Stay

Patient Category	Number	%
All patients admitted	1796	100
Still in hospital at 3 months	323	18
" " " " 6 months	182	10
" " " " 12 months	107	6

Patients retained for six months had strikingly similar characteristics to those retained for 12 months in terms of their diagnostic profiles and their assessed clinical condition at the time of review. This was in line with the findings of Mann and Sproule (1972). For both groups the patients' current clinical state emerged as the most important single factor determining continued retention. Unavailability of appropriate accommodation in the community was the second most important factor whereas employability and relatives' attitude were

implicated in only a small proportion of cases.

The second step was to carry out a feasibility study using provisional interview schedules and rating scales. No difficulty was encountered in identifying and subsequently interviewing 20 patients who had been in hospital for about six months. On the basis of this pilot the interview schedule was modified by excluding those items which proved to be difficult to obtain and those which proved to be so time consuming as to make the data collection procedure impracticably lengthy. Details of early upbringing, education, employment history and marital history were found to be both difficult to obtain accurately and time consuming. The same was true for details of previous psychiatric history where items like age at first onset and precipitating events for first or current episode of illness were difficult to define accurately and were dropped in favour of age at first contact with psychiatric services and age at first psychiatric admission, which were easier to obtain. Relatives' attitudes to patients' discharge proved to be most difficult to investigate. The difficulties of defining the appropriate relative for the patient were compounded by the time spent in trying to contact the relatives. This item was therefore dropped since it was felt to be partly covered by another item concerning the availability of appropriate accommodation as rated by the registrar who, it was hoped, would be aware of the patient's family and other resources.

The rating scales were also piloted. Since it was only the author who would be administering the BPRS, it was felt that an inter-rater reliability exercise was not necessary. However, as far as the Ward Behaviour Scale was concerned, and since it was to be completed by a number of nurses, it was felt that an inter-rater reliability study was essential. This was carried out on the pilot sample and two nurses

independently rated each of the 20 patients on the same day. Then the Weighted Kappa (Cohen, 1968) values for each item were ascertained (Table 3.2). This showed significant positive agreement for all items, more so for S.W. than S.E. items.

Table 3.2

Weighted Kappa Values for Ward Behaviour Scale Items

Item	Weighted Kappa
1. Slowness of Movement	+ 0.582
2. Under-activity	+ 0.506
3. Over-activity*	+ 0.573
4. Conversation	+ 0.455
5. Social Withdrawal	+ 0.587
6. Leisure Interests	+ 0.746
7. Laughing and Talking to Self*	+ 0.362
8. Posturing and Mannerisms*	+ 0.497
9. Threatening or Violent Behaviour*	+ 0.300
10. Personal Hygiene	+ 0.764
11. Personal Appearance	+ 0.806
12. Behaviour at Meal-time	+ 0.658

*S.E. items

Six months later an attempt was made to trace these same patients for a follow-up pilot. The whereabouts of only one of the 20 patients were not known although it was ascertained from a relative that he had gone to England. This emphasised the value of obtaining not only the patient's address, but also a relative's address for tracing the

patients successfully. At follow-up no difficulty was encountered in obtaining the relevant data.

(5) Method

The study was carried out in two stages: a recruitment stage which lasted 12 months from 1st January, 1975 to 31st December, 1975 and a follow-up stage which lasted another 12 months from 1st July, 1975 to 30th June, 1976. Thus, because of the six months overlap between the two stages, data collection took 18 months to complete.

At the beginning of each month during the recruitment stage a list was provided by the R.E.H. data collection office containing the names of patients who would have completed six months in hospital during the month. This list was checked to make sure that the patients fulfilled the criteria for inclusion in the study. The patients were then interviewed within one week of completing six months in hospital. Social, demographic and previous psychiatric history data were obtained from the patient's case notes. The patient was then interviewed for between 40 minutes and one hour. At the end of the interview the BPRS was completed and a diagnosis made according to Feighner's criteria. The ward sister or charge nurse was then asked to complete the Ward Behaviour Scale. Further information relating to the patient's hospital experience was extracted from the nurses Kardex with the aid of the ward sister or charge nurse. The doctor's rating scale and consultant's prediction scale were then despatched to the appropriate doctor by internal mail. When all this information was gathered, it was coded and checked and the coding sheets were then stored. The patients' and the relatives' addresses were documented.

At follow-up it was first ascertained whether the patient was still in the hospital. Those who had been discharged home were sent

a letter of appointment for an interview at home or in the outpatient clinic. When patients had been transferred to another hospital the doctor-in-charge there was asked for permission to interview the patient. The patients were then interviewed within one week of the anniversary of their date of admission to hospital. Relevant information was collected in a similar manner from the patients themselves, and additional information was obtained from the nurses, relatives, hostel supervisors or landladies according to the patient's placement. Finally, in the case of patients who had died the case notes were examined to determine the cause of death.

(6) Analysis

When all this information was coded and checked, the data was transcribed on to punched cards and was ready for analysis. Analysis of data was carried out using the Statistical Package for the Social Sciences (SPSS) programme at Edinburgh Regional Computing Centre. The data was analysed by comparing and testing for the differences between criterion groups of patients using chi square or, where appropriate, 'Student's' t-test.

Chapter IV

RESULTS

INTRODUCTION

This chapter has been divided into five sections dealing with different aspects of the study. The first section describes the characteristics of the six month sample as a whole. The results are given in tabular form comparing men and women. The comparison could have been carried out using variables such as age, marital status or first admissions versus readmissions as criteria variables with equally useful and meaningful results. However, the task in this section is not that of comparison but of description, and although the choice was arbitrary, it was felt that choosing sex as a criterion variable gave the findings a depth that would have otherwise been lacking.

The second section gives the results of the comparison between the six months sample and the rest of the admission cohort. The comparison was necessarily confined to those variables common to both groups, namely those which constitute the admission data part of the CDCS.

In the third section the six months sample has been divided into two outcome groups: the long-stay patients, who had remained continuously in hospital for 12 months, and the medium-stay patients, who had remained in hospital for more than 6 but less than 12 months. The two groups are compared using admission, 6 months and 12 months data. On the basis of these findings the six months sample has been divided into three types of patients with distinctive characteristics and outcome. The fourth section gives a brief description and discussion of these three groups of patients.

The fifth and last section is devoted to the question of constructing a scale predictive of length of hospitalization using both admission and six months data. No attempt was made to cross-validate the scales since this was beyond the scope of the study.

(A) THE SIX MONTHS SAMPLE

1. Social and Demographic Characteristics:

During the twelve months of the study 162 patients stayed in hospital continuously for six months following admission. This represents 8.4% of all patients admitted to the R.E.H. during that period. Table 4.1 gives a summary of the main characteristics of the sample.

SEX. There were 57 men and 105 women giving a male:female ratio of 1:1.8.

AGE. The mean age of the sample was 59.4 years with a standard deviation of 22.9 years. Ninety patients (56%) were 65 years of age or over on admission. It is worth noting that in this age group women outnumbered men by 3.2:1 whereas in the 15-64 years age group there were equal numbers of males and females.

MARITAL STATUS. Of the whole sample 43% were single, 21% married, 31% widowed and 5% divorced or separated. There were marked differences between the sexes. The widowed category was made up almost entirely of women, 44% of whom were widowed. Also, proportionately more men were married (37%) or single (49%) than women (12% and 39% respectively).

LIVING GROUP. Only 5% of the men were living alone and 61% were living with a first degree relative compared to 29% and 37% of the women respectively. The proportion admitted from lodgings, hostels or other institutions was the same for both sexes. Two men (4%) had no fixed abode compared to none of the women.

EMPLOYMENT STATUS. Nearly one-third of the sample (30%) were unemployed and a further quarter were retired. These two categories alone accounted for 90% of the men in the sample. Half the women, on the other hand, were classified as 'housewives only'. Only two men and two women were

working until admission and 13 patients (8%) were classified as students.

SOCIAL CLASS. The social class distribution of the sample was even with equal numbers in the upper and lower, and a slightly higher proportion in the middle social class. However, the proportion of men in the lower social classes was significantly higher than that of the women.

AREA OF RESIDENCE. As expected the majority (90.5%) of the patients were residing in the hospital's catchment area at the time of admission, and these were equally distributed between the four sectors of the city. That still left 9.5%, all of whom came from the rest of Scotland, particularly the Borders area. The majority of the patients were known to have relatives either in Edinburgh itself (83%) or elsewhere (15%) and only 3 patients were known not to have any living relatives.

RELIGION. Eighty-four per cent of the sample were Protestants and 12% Catholics. Answers were obtained regarding religious practice from 86 patients, 37% of whom were practising and 63% non-practising.

Table 4.1

The Six Months Sample:
Social and Demographic Characteristics by Sex

Variable	Males (%)	Females (%)	Both Sexes (%)
Numbers	57	105	162
Mean Age ± s.d.	51.6 ± 21.5	63.3 ± 22.7	59.4 ± 22.9
	$t = 3.28$ $p<0.001$		
Age Groups			
15-64 years	36 (63)	36 (34)	72 (44)
65 years +	21 (37)	69 (66)	90 (56)
	$X^2 = 11.33$ df 1 $p<0.001$		

Table 4.1 continued

Variable	Males (%)	Females (%)	Both Sexes (%)
Marital Status			
Single	28 (49)	41 (39)	69 (43)
Married	21 (37)	13 (12)	34 (21)
Widowed	4 (7)	47 (45)	51 (31)
Div./Sep.	4 (7)	4 (4)	8 (5)
	X^2 = 28.90 df 3	p<0.001	
Living Group			
NFA	2 (4)	0 (0)	2 (1)
Alone	3 (5)	30 (29)	33 (20)
First degree relative	35 (61)	39 (37)	74 (46)
Lodgings/Other inst.	17 (30)	36 (34)	53 (33)
	X^2 = 18.47 df 3	p<0.001	
Social Class			
I and II	13 (24)	30 (33)	43 (30)
III	17 (31)	41 (45)	58 (40)
IV and V	24 (44)	20 (22)	44 (30)
	X^2 = 8.08 df 2	p<0.02	
Employment Status			
Unemployed	26 (46)	22 (21)	48 (30)
Student/N.A.	3	10	13 (8)
Employed - working	2	2	4 (2)
" - off work	1	4	5 (3)
Retired	25 (44)	15 (14)	40 (25)
Housewife only	-	52 (50)	52 (32)

2. Admission Characteristics and Previous Psychiatric History

The findings are summarised in Table 4.2.

REFERRAL. G.P. referrals amounted to 51% and self referrals to 16% of all referrals; the category of 'other' includes referrals made by other medical staff on behalf of patients under their care in other hospitals or nursing homes and amounting to 21% of all referrals. The proportion of women referred by G.P.s (60%) was significantly higher than that of men (34%).

NATURE OF ADMISSION. A total of 62 patients (40%) were admitted as emergencies, and of these almost three-quarters (45 patients) were in

current contact with the R.E.H. staff at the time of admission. The rest (60%) were admitted by prior arrangement or from waiting lists.

CLASSIFICATION ON ADMISSION. The majority (88%) of the patients were admitted informally. Of the 20 patients (12%) admitted on compulsory order 13 were under Section 31 and 7 under other Sections of the Mental Health Act (Scotland) 1960.

ADMISSION WARD. Less than a quarter (23.5%) of the patients were admitted initially to acute admission wards. The majority (50.6%) were admitted directly to psychogeriatric wards and a small proportion (8.6%) went directly to rehabilitation wards. Patients admitted to psychogeriatric wards were predominantly women whereas those admitted to rehabilitation wards were predominantly men. Those admitted to 'special units' amounted to 11% of the sample.

AGE AT FIRST PSYCHIATRIC REFERRAL AND ADMISSION. The mean age at the first ever psychiatric referral was 54.0 $\pm$ 25.86 years and that for first admission was 55.16 $\pm$ 25.22 years. The respective mean ages for men (45.09 $\pm$ 24.45 and 47.09 $\pm$ 23.83 years) were significantly lower than those for women (58.75 $\pm$ 25.43 and 59.47 $\pm$ 24.99 years).

NUMBER AND DURATION OF PREVIOUS ADMISSIONS. More than half the patients had previous admissions to psychiatric hospitals. Fourteen per cent of the patients had one, 22% had between two and four, and 16% had more than four admissions. One-quarter (24%) of the sample had previously spent up to 6 months, 14% up to 2 years and 13% more than 2 years in psychiatric inpatient care. Women differed significantly from men in respect of the number of admissions, having had fewer admissions, but not the total duration of admissions.

PSYCHIATRIC CARE DURING THE 12 MONTHS PRECEDING ADMISSION. One-third of the patients had been in inpatient care, 34 patients (21%) had one

and 20 patients (12%) had more than one admission. Sixteen patients (10%) spent up to 4 weeks, 25 patients (15%) up to 6 months and 13 patients (8%) between 6 and 12 months in hospital. Twenty-two patients (14%) were in day patient care and 8 of them (5%) had attended for more than 6 months. Sixty patients (39%) attended outpatient clinics, 40 patients (26%) had made up to 5 attendances and 20 patients (13%) between 5 and 25 attendances during the year.

Table 4.2

The Six Months Sample

Admission Characteristics and Previous Psychiatric History Variables by Sex

Variable	Males (%)	Females (%)	Both Sexes (%)
Source of Referral			
Self	15 (27)	11 (11)	26 (16)
G.P.	19 (34)	62 (60)	81 (51)
Other	22 (39)	30 (29)	52 (33)
	X^2 = 11.81 df 2 p<0.01		
Nature of Admission			
Emergency - no current contact	9 (17)	8 (8)	17 (11)
" - in current contact	18 (33)	27 (27)	45 (29)
'Cold'	27 (50)	65 (65)	92 (60)
	X^2 = 4.19 df 2 n.s.		
Classification on Admission			
Informal	49 (86)	93 (89)	142 (88)
Section 31	4 (7)	9 (8)	13 (8)
Other compulsory order	4 (7)	3 (3)	7 (4)
	X^2 = 1.62 df 2 n.s.		
First Psychiatric Referral			
Mean Age ± S.D.	45.09 ± 24.45	58.75 ± 25.43	54.0 ± 25.86
	t = 3.29 p<0.001		

Table 4.2 continued

Variable	Males (%)	Females (%)	Both Sexes (%)
First Psychiatric Admission			
Mean Age ± S.D.	47.09 ± 23.83	59.47 ± 24.99	55.16 ± 25.22
	t = 3.04 p<0.01		
Number of Previous Admissions			
None	21 (37.5)	57 (54)	78 (48)
One admission	7 (12.5)	16 (15)	23 (14)
2-4 admissions	19 (34)	16 (15)	35 (22)
More than 4 admissions	9 (16)	16 (15)	25 (16)
	χ^2 = 8.20 df 3 p<0.05		
Duration of Previous Admissions			
Nil	21 (38)	57 (55)	78 (49)
Up to 3 months	9 (16)	14 (13.5)	23 (14)
" " 6 "	8 (14)	8 (8)	16 (10)
" " 2 years	8 (14)	14 (13.5)	22 (14)
More than 2 years	10 (18)	10 (10)	20 (13)
	χ^2 = 5.97 df 4 n.s.		
PSYCHIATRIC CARE PREVIOUS 12 MONTHS			
No. of Admissions			
None	32 (56)	76 (72)	108 (67)
One admission	16 (28)	18 (17)	34 (21)
More than one admission	9 (16)	11 (10)	20 (12)
	χ^2 = 4.41 df 2 n.s.		
Time in Inpatient Care			
Nil	32 (56)	76 (72)	108 (67)
Up to 4 weeks	7 (12)	9 (9)	16 (10)
" " 6 months	13 (23)	12 (11)	25 (15)
" " 12 months	5 (9)	8 (8)	13 (8)
	χ^2 = 5.14 df 3 n.s.		
Time in Day-patient Care			
Nil	45 (82)	92 (88)	137 (86)
Up to 6 months	6 (11)	8 (8)	14 (9)
More than 6 months	4 (7)	4 (4)	8 (5)
	χ^2 = 1.45 df 2 n.s.		
Number of Outpatient Visits			
Nil	34 (64)	62 (60)	96 (61)
1-5 visits	11 (21)	29 (28)	40 (26)
5-25 visits	8 (15)	12 (12)	20 (13)
	χ^2 = 1.16 df 2 n.s.		

3. Hospital Experience Following Admission

Some of the findings in this section are summarised in Table 4.3.

CHANGE OF WARD. Only 46 patients (28%) had remained in the same ward since admission. Seventy-three patients (45%) had once, and 27 patients (17%) more than once, been transferred to other wards during their six months in hospital. The remaining 16 patients (10%) were temporarily transferred at least once to another hospital, largely for medical investigations, operations or on account of an overdose. However, at six months the proportions of these patients resident in psychogeriatric wards (50.6%) and 'special units' (12.3%) remained unchanged whereas those in admission wards went down to 14.2% and in rehabilitation wards increased to 15.4%.

CHANGE OF CLASSIFICATION. The legal status of 144 patients (89%) remained unchanged, that of 8 patients (5%) was changed to informal, and a further 10 patients (6%) were either put on order or had their compulsory order changed.

CHANGE OF DIAGNOSIS. For the majority of patients (94%) the admission diagnosis was retained and only 6 patients (4%) had their diagnoses changed.

CHANGE OF DOCTOR-IN-CHARGE. This refers to the registrar immediately in charge of the patient (Table 4.3). Only 25 patients (15%) retained the same registrar throughout their six months stay. Fifty-seven patients (35%) had the registrar changed once and 80 patients (50%) twice since admission. A significantly higher proportion of men had experienced these changes than women.

CHANGE OF CIVIL STATUS. Only one patient had her civil status changed following admission when she became widowed.

TREATMENT SINCE ADMISSION. Phenothiazines were the drugs most frequently

prescribed for these patients, with 124 patients (77%) having received them at some point during the six months. They were followed by non-psychotropic drugs which were received by 113 patients (70%), night sedatives and hypnotics received by 112 patients (69%), other psychotropic drugs received by 54 patients (33%), anti-depressants received by 34 patients (21%) and minor tranquillizers received by 21 patients (13%). Sixteen patients (10%) received electroconvulsive therapy and none of the patients had psychosurgery. These drug categories were not mutually exclusive and a patient could have received several drugs alternately or in combination. Proportionately more women received night sedatives, and fewer received 'other psychotropic drugs' than men. At six months 73 patients (45%) were on one regular psychotropic drug and 38 patients (23%) were on two or more drugs. On the other hand 42 patients (26%) were on no medication and nine patients (6%) were on PRN medication only. Significantly more men were on more than one drug than women, the majority of whom were on one regular prescription.

PARTICIPATION IN ACTIVITIES. Some form of occupational or recreational therapy is available on almost all the hospital wards, yet only 97 patients (60%) took part in these activities. Forty-nine patients (30%) attended occupational therapy departments, 19 patients (12%) worked in industrial therapy units and 21 patients worked outside the hospital. The latter category included students who were attending school and patients attending industrial rehabilitation units in addition to those actually employed in the community. One-quarter of the men worked in the industrial therapy unit compared to only 5% of the women.

SERVICES USED. Of the variety of services available in the hospital social work was the one most frequently used and social workers were involved in the cases of 79 (49%) patients. Other medical specialists

were consulted in the case of 64 (40%) patients. Thirty-two patients (20%) were referred to medical psychologists for either assessment or treatment, the latter involved 6 patients (4%) who were on various behaviour modification programmes. Lastly, the community nursing service assisted with 7 patients (4%) during home trials or when patients absconded.

CONTACTS WITH THE OUTSIDE WORLD. During their sixth month in hospital the patients were visited frequently by their relatives and occasionally by friends and others. The mean number of visits by relatives was 6.27 ± 7.52 for male and 9.05 ± 9.91 for female patients, a difference significant at the 5 per cent level of confidence. The mean number of visits by friends and others was 1.80 ± 5.09 and 2.62 ± 5.42 respectively. The patient's freedom to leave the hospital premises was restricted in the case of 19 patients (12%) and 72 patients (47%) were allowed out only when accompanied by staff or relatives. Only 64 patients (41%) were free to go out unaccompanied. Proportionately more men were allowed out unaccompanied than women, the majority of whom were allowed out only when accompanied.

CONTACT WITH DOCTORS. During the sixth month 36 patients (22%) had no contact whatsoever with their doctors and 52 patients saw their doctors less than once a week. Thirty-one patients had at least one interview a week and 16 patients (10%) had two or more interviews a week with their doctors.

DESIRE TO LEAVE HOSPITAL. Answers to this question were obtained from only 89 patients (55%). The remaining 73 patients were mostly patients with dementia who did not realize that they were in hospital and the few patients who were mute or refused to answer. Of the patients who answered 5 patients (6%) were undecided and 26 (29%) expressed a desire

to leave hospital with some reservation, e.g. when they were well enough. Thirty-eight patients (42%) definitely wanted to leave and 20 patients (22%) definitely wanted to stay in hospital.

Table 4.3

Six Months' Experience: Some Selected Variables

Variable	Males	Females	Both Sexes
Ward Function at 6 Months			
'Special Unit'	7 (12)	13 (12)	20 (12)
Acute admission	6 (11)	17 (16)	23 (14)
Rehabilitation	19 (33)	6 (6)	25 (15)
Psychogeriatric	20 (35)	62 (59)	82 (51)
Other	5 (9)	7 (7)	12 (8)
$X^2 = 23.42$	df 4	$p<0.001$	
Change of Doctor-in-Charge			
No	4 (7)	21 (20)	25 (15)
Yes, once	18 (32)	39 (37)	57 (35)
Yes, more than once	35 (61)	45 (43)	80 (50)
$X^2 = 6.93$	df 2	$p<0.05$	
Proportion of Patients Who Received			
Phenothiazines	(79)	(75)	(77)
Non-psychotropic Drugs	(61)	(74)	(70)
Night Sedatives/Hypnotics	(56)	(76)**	(69)
Other Psychotropic Drugs	(46)*	(27)	(33)
Antidepressants	(19)	(22)	(21)
Minor Tranquillizers	(14)	(13)	(13)
E.C.T.	(9)	(10)	(10)
*$p<0.05$	**$p<0.02$		
Maintenance Medication at 6 Months			
None or only PRN medication	18 (32)	33 (32)	51 (32)
One regular psychotropic drug	17 (30)	56 (53)	73 (45)
More than one drug	22 (38)	16 (15)	38 (23)
$X^2 = 13.03$	df 2	$p<0.01$	
Ward Occupational Therapy			
Never took part	30 (53)	35 (33)	65 (40)
Participated at some point	27 (47)	70 (67)	97 (60)
$X^2 = 4.95$	df 1	$p<0.05$	

Table 4.3 continued

Variable	Males	Females	Both Sexes
Industrial Therapy			
Never attended	43 (75)	100 (95)	143 (88)
Attended at some point	14 (25)	15 (5)	19 (12)
$X^2 = 12.14$ df 1 p<0.001			
Visits by Relatives During 6th Month			
Mean ± S.D.	6.27±7.52	9.05±9.92	
F = 1.74 p<0.05			
Freedom to Leave Hospital Premises			
Restricted	9 (17)	10 (10)	19 (12)
Allowed - accompanied	14 (26)	58 (57)	72 (47)
Allowed - unaccompanied	31 (57)	33 (33)	64 (41)
$X^2 = 14.04$ df 2 p<0.001			
Interviews with Doctor During 6th Month			
None	11 (19)	25 (24)	36 (22)
1-3 interviews	22 (39)	30 (29)	52 (32)
4-7 "	9 (16)	22 (21)	31 (19)
8 or more	3 (5)	13 (12)	16 (10)
$X^2 = 3.73$ df 3 n.s.			
Desire to Leave the Hospital			
Do not know	2 (6)	3 (5)	5 (6)
Wish to stay - definite	5 (14)	15 (28)	20 (22)
Wish to leave - conditional	10 (29)	16 (30)	26 (29)
Wish to leave - definite	18 (51)	20 (37)	38 (42)
$X^2 = 2.70$ n.s.			

4. Clinical Condition and Prospects

THE BRIEF PSYCHIATRIC RATING SCALE. The BPRS was administered to 159 patients, but total pathology scores were obtained in only 136 cases. This was because the scale had been constructed in such a way that a total score could not be obtained unless all individual items were scored. This was not always possible since to score some of the items a clear, categorical statement by the patient was sometimes necessary. This was a problem often encountered with severely demented patients

for whom certain items, for instance item 12: hallucinatory behaviour, could not be scored. Figure 4.1 shows the percentage frequency distribution of the total pathology scores. The mean score for both sexes was 25.07 ± 6.96. The scores were generally low with 75% of the patients scoring within 12 points of the minimum score of 16, and almost all the patients accounted for by a score of 44 out of a possible maximum theoretical score of one hundred. Men produced a higher mean and greater variance than women, but the differences did not reach statistical significance levels. When individual items were examined it was necessary to eliminate the dimension of severity and score the symptoms as either present or absent. The commonest symptom by far was motor retardation found to be present in 70% of the cases followed by emotional withdrawal in 45% and blunted affect in 44% of the cases. The rarest symptoms on the other hand were hallucinatory behaviour present in only 4%, grandiosity in 6%, suspiciousness in 8% and hostility in 11% of the cases. Significant sex differences were found in only 2 symptoms: mannerisms and posturing scored by 32% of the men compared to 14% of the women ($p<0.02$), and blunted affect scored by 58% of the men compared to 37% of the women ($p<0.02$).

THE WARD BEHAVIOUR SCALE. This was completed for 159 patients. The scales yield two scores: a 'socially embarrassing behaviour' (S.E.) score made up of four items and a 'social withdrawal' (S.W.) score made up of the remaining eight items. Valid S.E. scores were obtained for 158 patients and valid S.W. scores for 156 patients because in a few cases some items were marked either not known or not applicable. Figure 4.2 gives the percentage frequency distribution of both these scores. The mean S.E. score was 1.07 ± 1.47 and the mean S.W. score was 5.26 ± 4.51. Here again the men produced higher means and greater variance

Figure 4.1.

Percentage Frequency Distribution
of B.P.R.S. Scores by Sex

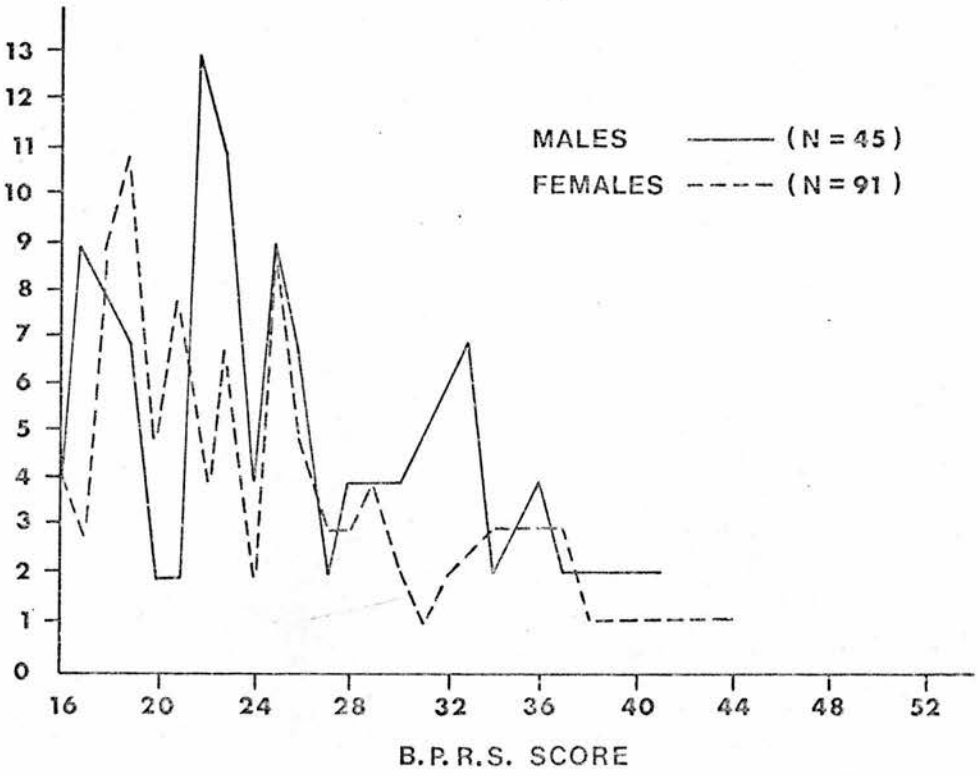
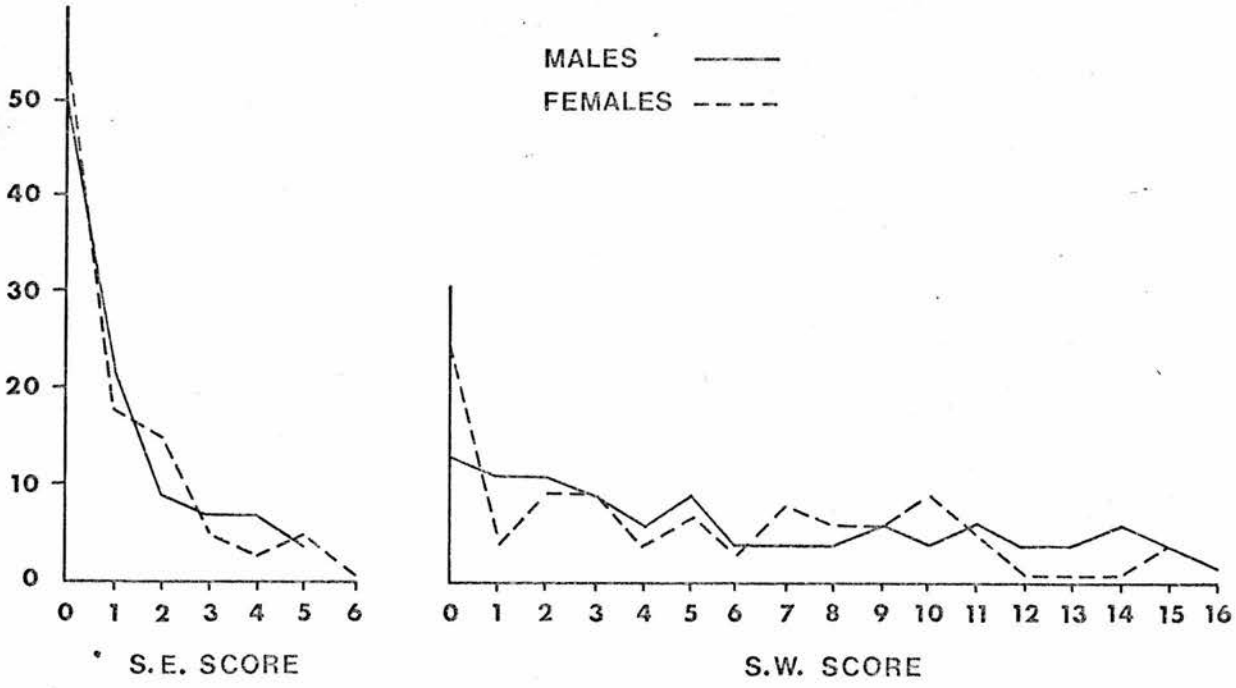


Figure 4.2.

Percentage Frequency Distribution
of Ward Behaviour Scale Scores by Sex



than women, but the differences were not statistically significant. Considering that the maximum score was 8 the S.E. scores were very low with over 50% of the sample scoring zero and over 70% of the patients accounted for up to a score of one. The S.W. scores, on the other hand, were less markedly skewed with patients obtaining up to the maximum score of 16, and with only 50% scoring 4 or less. Considered singly, the items most frequently encountered were (lack of) leisure interests and social withdrawal rated as being present to some degree in 65% and 60% of the patients respectively. The most infrequent items, one the other hand, were posturing and mannerisms, laughing and talking to self, and over-activity, which were found to be present in 13%, 20% and 24% of the patients respectively. No significant sex difference was found in any of the twelve items.

HOSPITAL DIAGNOSIS. Table 4.4 gives the distribution of the sample by diagnosis according to the International Classification of Diseases. Senile and presenile dementia accounted for nearly half the sample and schizophrenia and affective psychosis together for less than one-quarter of the cases. Proportionately more men were schizophrenic and fewer were demented or suffering from affective illness than women. Every diagnostic category was represented in the sample except for drug dependence. Only 22 (14%) patients received a secondary psychiatric diagnosis and seven of these were labelled personality disorder.

RESEARCH PROJECT DIAGNOSIS. Table 4.5 gives the diagnostic distribution of the sample according to Feighner's criteria. The rank ordering was similar to that of the hospital diagnosis but the numbers in each category were somewhat smaller. Forty patients (25%) who did not fulfil the diagnostic criteria were given the label of undiagnosed psychiatric illness. In 5 cases (3%) no psychiatric illness was evident. Only 13%

Table 4.4

The Six Months Sample

Principal and Secondary Hospital Diagnosis by Sex

Principal Hospital Diagnosis (ICD Code)	Males (%)	Females (%)	Both Sexes (%)
Senile and Presenile Dementia (290)	21 (38)	56 (54)	77 (49)
Schizophrenia (295)	11 (20)	8 (8)	19 (12)
Affective Psychosis (296)	4 (8)	14 (13)	18 (11)
Korsakov's Psychosis (291.1)	3	5 (5)	8 (5)
Transient Situational Disturbances (307)	1	6 (6)	7 (4)
Neuroses (300)	2	3	5
Personality Disorders (301)	3	2	5
Other Psychoses (293, 298, 299)	2	2	4
Mental Retardation (310-315)	2	2	4
Alcoholism (303)	2	0	2
Paranoid States (297)	0	1	1
Other Diagnoses (302,306,309,340,436)	3	5	8

Secondary Hospital Diagnosis (ICD Code)	Males (%)	Females (%)	Both Sexes (%)
Personality Disorders (301)	4	3	7
Senile and Presenile Dementia (290)	0	3	3
Schizophrenia (295)	1	1	2
Mental Retardation (310-315)	1	1	2
Paranoid States (297)	0	2	2
Neuroses (300)	0	1	1
Affective Psychosis (296)	1	0	1
Korsakov's Psychosis (291.1)	1	0	1
Alcoholism (303)	0	1	1
Other Psychoses (293)	0	1	1
Transient Situational Disturbance (307)	0	1	1
No other psychiatric illness	48	91	139 (86)

of the patients received a secondary R.P. label, largely that of undiagnosed psychiatric illness.

DOCTORS' RATINGS. The patients were rated by the doctors immediately in charge on three 4-point scales covering the areas of employability, accommodation and the most appropriate type of care for them (see Appendix A for details). The results are shown in Table 4.6.

Table 4.5

Principal and Secondary Research Project Diagnosis by Sex

Principal R.P. Diagnosis	Males (%)	Females (%)	Both Sexes (%)
Organic Brain Syndrome	18 (32)	53 (50)	71 (44)
Primary Affective Disorders: Depression	3 (5)	12 (11)	15 (9)
Schizophrenia	8 (14)	3 (3)	11 (7)
Alcoholism	3	2	5
Secondary Affective Disorders	0	3	3
Anxiety Neurosis	1	1	2
Mental Retardation	2	0	2
Primary Affective Disorders: Mania	0	1	1
Antisocial Personality Disorder	1	0	1
Undiagnosed Psychiatric Illness	17 (30)	23 (22)	40 (25)
No Psychiatric Illness	1	4	5
Secondary R.P. Diagnosis	**Males (%)**	**Females (%)**	**Both Sexes (%)**
Organic Brain Syndrome	2	1	3 (2)
Antisocial Personality Disorder	1	0	1
Alcoholism	1	0	1
Mental Retardation	0	1	1
Undiagnosed Psychiatric Illness	4 (7)	10 (9)	14 (9)
No Other Psychiatric Illness	34 (60)	79 (75)	113 (70)

Thirteen patients (9%) were rated as being immediately employable, 24 patients (16%) as possibly employable after a period of rehabilitation and 110 patients (75%) as unlikely to be employable. Accommodation in the community was available for 41 patients (29%), unavailable but likely to be found for a further 34 patients (23%) and unavailable and unlikely to be found for 70 patients (48%). On the basis of the patients' clinical condition alone 26 patients (17%) were considered suitable for discharge mostly to day or outpatient care except for 3 patients who were considered to require no further treatment. On the other hand 30 patients (19%) were rated as being in need of further inpatient care and 100 patients (64%) were considered to require

Table 4.6

Doctors' Ratings at Six Months by Sex

	Males	Females	Both Sexes
Most Appropriate Type of Care			
None	1 (2)	2 (2)	3 (2)
Further day or outpatient care	8 (15)	15 (14)	23 (15)
Further inpatient care	15 (28)	15 (14)	30 (19)
Permanent institutional care	29 (55)	71 (69)	100 (64)
$X^2 = 4.51$ df 3	n.s.		
Availability of Accommodation			
Available and suitable	6 (12)	14 (15)	20 (14)
Available but unsuitable	9 (17)	12 (13)	21 (15)
Likely e.g. patient on waiting list	11 (21)	23 (25)	34 (23)
Unavailable and unlikely	26 (50)	44 (47)	70 (48)
$X^2 = 0.87$ df 3	n.s.		
Employability			
Immediately employable - with job	3 (6)	4 (4)	7 (5)
" " - no job	3 (6)	3 (3)	6 (4)
May be employable after rehabilitation	11 (22)	13 (13)	24 (16)
Unlikely to be employable	33 (66)	77 (79)	110 (75)
$X^2 = 3.17$ df 3	n.s.		
Consultant's Prediction			
Will be out of hospital	13 (26)	25 (25)	38 (25)
Will be in hospital	37 (74)	75 (75)	112 (73)

permanent institutional care. Adding up the scores on the 3 rating scales, none of the patients scored the minimum (and best) total score of zero while 66 patients (41%) attained the maximum (and worst) score of nine. On all 3 scales the scores of men and women were very similar. Finally, the consultants predicted that 73% of the patients would still be in hospital six months later, thus remaining in hospital for one year following admission.

SUMMARY

The six months sample was found to be made up predominantly of elderly women, largely single or widowed, usually living with a first degree relative, and rarely in active employment. The majority of referrals were made by G.P.s and a substantial proportion were admitted as emergencies usually on informal basis and to psychogeriatric or acute admission wards. These patients either had no history of psychiatric illness or, when they did, it was a prolonged history and they were usually known to the R.E.H. staff. During their six months in hospital they usually had a succession of registrars looking after them, and by the sixth months were usually in psychogeriatric or rehabilitation wards and had little or no contact with their doctors. The majority had received phenothiazines at one point during their stay but by the sixth months one third of them were on no regular medication. They tended to be inactive in the wards and very few of them took part in occupational or industrial therapy. They were regularly and frequently visited by their relatives. Clinically they were characterised by the absence of florid symptomatology and the presence of a marked degree of motor retardation and emotional withdrawal. Their behaviour on the wards was characterised by lack of leisure interests, social withdrawal and inability to look after themselves. They showed little or no socially embarrassing behaviour. Lastly the commonest diagnosis by far was that of dementia followed by equal, much smaller, proportions of schizophrenic and affective disorders.

(B) DETERMINANTS OF SIX MONTHS STAY

The admission cohort from which the six months sample originated numbered 1934 patients of whom 1772 patients (92%) were discharged less than 6 months after admission leaving 162 patients (8%) who remained in hospital for 6 months or more. Table 4.7 shows the sex distribution of the two populations. The proportion of the women in the six months sample (65%) was considerably higher than that in the short-stay population (55%). Thus a significantly higher proportion

Table 4.7

Sex Distribution of the Admission Cohort by Length of Stay

Sex	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Males	792	57	(7)
Females	980	105	(10)
Both Sexes	1772	162	

$X^2 = 5.07$ df 1 $p<0.05$

of women (10%) remained in hospital for 6 months than men (7%).

Table 4.8 gives the distribution of the two populations by age. Just over one-third of the short-stay population were under 35 years of age, a small proportion over 65 years and more than half (53%) in the 35-64 years age group. By contrast, the majority of the six months sample (55%) were aged 65 years or over and the remainder were equally divided between the other two age groups. For the over 65 years age group the probability of staying six months in hospital was .6 times greater than for the other two age groups. Table 4.9 shows

Table 4.8

Age Distribution of the Admission Cohort by Length of Stay

Age Group (Years)	Short-stay patients	Six months sample	Percentage of patients staying 6 months
-34	611	35	(5)
35-64	930	38	(4)
65+	231	89	(28)
All ages	1772	162	

$X^2 = 189.86$ df 2 $p<0.001$

Table 4.9

Mean Age on Admission by Sex and Length of Stay

Sex	Mean Age ± SD	
	Short-stay patients	Six months sample
Males	42.28 ± 15.19	52.25 ± 21.24
Females	45.46 ± 18.10	63.09 ± 23.04
Both Sexes	44.04 ± 16.93	59.32 ± 22.95

Table 4.10

Marital Status Distribution by Length of Stay

Marital Status	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Single	591	68	(10)
Married	781	38	(5)
Widowed	177	49	(22)
Divorced/Separated	223	7	(3)
Totals	1772	162	

$X^2 = 78.79$ df 3 $p<0.001$

the mean age of the cohort by sex and length of stay. Patients of both sexes who stay in hospital for six months are significantly older than their short-stay counterparts.

Table 4.10 shows the marital status distribution of the two populations. There were proportionately more single and widowed and fewer married, divorced or separated patients among the six months than the short-stay patients. It is worth mentioning here that the majority (85%) of patients in the widowed category were women. Also, only 3 (9% of) widowed men remained in hospital for six months compared to 46 (24% of) widowed women.

The distribution of the two populations by living group from which admitted is given in Table 4.11. Proportionately fewer six months

Table 4.11

Living Group Distribution by Length of Stay

Living Group	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Spouse	713	29	(4)
Other family member	424	52	(11)
Alone	299	35	(10)
All other	250	36	(13)
Totals	1686	152	

$X^2 = 32.02$ df 3 $p<0.001$

patients were living with their spouses and more living alone or with other family group than short-stay patients.

Table 4.12 gives the social class distribution of the two groups.

Table 4.12

Social Class Distribution by Length of Stay

Social Class	Short-stay patients	Six months sample	Percentage of patients staying 6 months
I and II	444	36	(8)
III	684	61	(8)
IV and V	473	41	(8)
Totals	1601	138	

$X^2 = 0.11$ n.s.

There was no difference between short-stay and six months patients in either their social class distribution or in the proportion of patients from each social class who remained in hospital for 6 months.

The distribution by work status is given for men and women separately in Table 4.13. For both sexes the highest proportion remaining for six months was in the retired category and the lowest proportion amongst those working until admission. For men alone being off sick was associated with a decreased probability of retention for six months.

Table 4.14 shows place of most recent psychiatric inpatient care prior to admission by length of stay. Proportionately more patients who had no previous admissions to psychiatric hospitals (i.e. first admissions) stayed in hospital for 6 months. Of those who had previous admissions those whose last previous admission was to the R.E.H. stayed longer in hospital than those whose last previous admission was to another psychiatric hospital. For the total duration in inpatient care in the 12 months preceding the key admission (Table 4.15) the picture

Table 4.13

Work Status Distribution by Length of Stay

Work Status	Short-stay patients	Six months sample	Percentage of patients staying 6 months
MEN:			
Unemployed or never worked	284	24	(8)
Working until admission	252	2	(1)
Off sick	138	4	(3)
Retired	70	22	(24)
WOMEN:			
Unemployed or never worked	167	15	(8)
Working until admission	202	1	(1)
Off sick	96	8	(8)
Retired	68	25	(27)
Housewife only	363	36	(9)

Men : $X^2 = 63.10$ df = 3 $p<0.001$
Women: $X^2 = 56.03$ df = 4 $p<0.001$

Table 4.14

Most Recent Psychiatric Inpatient Care by Length of Stay

Most recent inpatient care	Short-stay patients	Six months sample	Percentage of patients staying 6 months
None	680	82	(11)
At R.E.H.	832	64	(7)
At other hospital	253	14	(5)
Totals	1765	160	

$X^2 = 10.77$ df 2 $p<0.01$

Table 4.15

Duration of Psychiatric Inpatient Care in the 12 Months Preceding Key Admission by Length of Stay

Time spent in inpatient care	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Nil	1140	107	(9)
Up to one month	263	13	(5)
More than one month	241	32	(12)
Totals	1644	152	

$X^2 = 8.71$ df 2 $p<0.02$

Table 4.16

Source of Referral by Length of Stay

Source of referral	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Self	60	2	(3)
G.P.	505	67	(12)
Psychiatric care	861	55	(6)
General hospital	240	22	(8)
Prison/Judicial	83	9	(10)
Other agencies	23	7	(23)
Totals	1772	162	

$X^2 = 25.80$ df 5 $p<0.001$

Table 4.17

Legal Status on Admission by Length of Stay

Legal Status	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Informal	1670	146	(8)
Compulsory	102	16	(14)
Totals	1772	162	

$X^2 = 4.16$ df 1 $p<0.05$

becomes somewhat more complex. Having previously spent more than one month in inpatient care was associated with an increased probability, and having spent less than one month with a decreased probability, of remaining in hospital for 6 months.

Table 4.16 gives the source of referral prior to key admission by length of stay. Patients referred by agencies such as local authority, ministers and other voluntary agencies had the highest probability of remaining for 6 months. Self-referral, on the other hand was associated with the lowest probability of staying 6 months in hospital.

Table 4.17 gives the legal status of the patient by length of stay. Admission on a compulsory order was associated with an increased probability of retention for 6 months.

The relationship between admission ward function and length of stay is shown in Table 4.18. Admission to psychogeriatric or rehabilitation wards was associated with a markedly increased

Table 4.18

Admission Ward Function by Length of Stay

Ward Function	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Acute admission	1064	39	(4)
'Special unit'	495	19	(4)
Rehabilitation	32	14	(30)
Psychogeriatric	64	81	(56)
All other	117	9	(7)
Totals	1772	162	

$X^2 = 503.46$ df 4 $p<0.001$

Table 4.19

Diagnostic Distribution of the Admission Cohort by Length of Stay

Admission Diagnoses (ICD Code)	Short-stay patients	Six months sample	Percentage of patients staying 6 months
Alcoholism (303)	351	3	(1)
Affective psychosis (296)	303	18	(5)
Neuroses (300)	243	6	(2)
Schizophrenia (295)	195	17	(8)
Personality disorders (301)	170	7	(4)
Transient situational disturbances (307)	98	7	(7)
Senile and presenile dementia (290)	49	51	(51)
Other neurotic disorders (302,4,5,6,8,9)	76	5	(6)
Other psychoses (298-9)	71	6	(8)
Psychoses with physical condition (293,4)	50	13	(21)
Paranoid states (297)	38	7	(16)
Alcoholic psychosis (291)	25	4	(14)
Mental retardation (310-15)	13	0	(0)
Other non-psychiatric medical conditions	91	18	(17)
Totals	1772	162	(8)

$X^2 = 308.06$ df 13 $p<0.001$

probability of staying six months. On the other hand, admission to acute admission wards or special units was associated with a decreased probability of staying six months.

Table 4.19 gives the distribution by admission diagnosis and length of stay. Three diagnostic categories - senile and presenile dementias,

psychoses associated with physical conditions, and other non-psychiatric medical conditions - were associated with a much increased likelihood of retention for six months. On the other hand, five other categories - mental retardation, alcoholism, neuroses, personality disorders and affective psychoses - were associated with a decreased probability of retention for 6 months.

Finally, Table 4.20 gives a summary of the factors associated with remaining in hospital for six months giving the favourable and unfavourable direction of each variable.

CONTROLLING FOR THE AGE FACTOR. Since age was found to be the most important variable in differentiating between those remaining in hospital for 6 months and the short-stay patients, a reanalysis of the data was carried out separately for the under and over 65 age groups. The results of this analysis are given in detail in Appendix C, but a summary of the findings is given in Table 4.21.

Sex and source of referral lost their discriminating power in both age groups and social class was again found to have no discriminatory power. Within the under 65 age group marital status, living group, work status, legal status, time in inpatient care during the previous 12 months and admission ward function all discriminated significantly between short-stay and six months patients. In the over 65 age group only age, previous psychiatric care and admission ward function discriminated significantly between short-stay and six months patients. Admission to a psycho-geriatric ward was associated with an increased risk of retention for 6 months in both age groups whereas admission to a rehabilitation ward had that effect only in the under 65 age group. Also a diagnosis of senile or presenile dementia or a non-psychiatric condition was associated with an increased risk, and a diagnosis of mental retardation, alcoholism

Table 4.20

Factors Associated With Remaining in Hospital for Six Months

Variable	Favourable direction	Unfavourable direction*
Sex	Male	Female
Age	Under 65	65+
Marital status	Married/Div./Sep.	Widowed
Living group	Spouse	Other
Work status	Working until adm.	Retired
Previous psychiatric care	Some	None
Psychiatric inpatient care previous 12 months	<1/12	>1/12
Source of referral	Self	Other agency/G.P.
Category on admission	Informal	Compulsory
Ward function	Acute admission	Psychogeriatric
	'Special units'	Rehabilitation
Principal diagnosis	Mental retardation	Senile and pre-senile dementia
	Alcoholism	Psychosis associated with physical condition
	Neuroses	Other medical condition
	Personality disorder	
	Affective psychosis	

*Associated with increased likelihood of retention for 6 months in hospital

or neurosis with a decreased risk, of retention for 6 months in both age groups. Table 4.21 lists 5 more diagnostic categories whose effect was limited to only one of the two age groups.

Table 4.21

Factors Associated with Remaining in Hospital for Six Months Corrected for Age Group

Variable	Significance <65	Significance >65	Direction Favourable (+) Unfavourable (-)
Marital status	p<0.001	n.s.	Single (-)
Living group	p<0.001	n.s.	Spouse (+) Other first degree relative (-)
Work status - men	p<0.001	n.s.	Working or off sick (+) Retired (-)
" " - women	p<0.02	n.s.	Working (+) Unemployed or off sick (-)
Legal status	p<0.001	n.s.	Compulsory (-)
Psychiatric inpatient care previous 12 months	p<0.05	n.s.	< 1/12 (+) > 1/12 (-)
Sex	n.s.	n.s.	
Social class	n.s.	n.s.	
Source of referral	n.s.	n.s.	
Age on admission	n.s.	p<0.001	> 75 years (-)
Previous psychiatric care	n.s.	p<0.01	Some, not R.E.H. (+) None (-)
Admission ward function	p<0.001		Psychogeriatric, Rehabilitation (-)
		p<0.001	Psychogeriatric (-) All other (+)
Principal admission diagnosis	***		Senile and presenile dementia, Other non-psychiatric conditions (-). Mental retardation, Alcoholism, Other psychoses, Personality Disorders, Neuroses (+)
		***	Senile and presenile dementia, Psychosis with cerebral condition, Other non-psychiatric conditions (-) Neuroses, Alcoholism, Schizophrenia, Psychosis with physical condition, Transient situational disturbance, Mental retardation (+)

*** Numbers too small for statistical analysis (see Appendix C)

(C) DETERMINANTS OF TWELVE MONTHS (LONG) STAY

At follow-up all 162 patients were successfully traced and all those who were still alive were interviewed by the author except for 2 patients who had moved down to England. Some information about these two patients was, however, obtained from social workers and doctors involved in their treatment at the time. Table 4.22 gives the placement of the patients at follow-up and indicates those who had remained continuously in hospital for 12 months thus becoming long-stay. A total of 101 patients,

Table 4.22

Placement and Status of Patients at 12 Months

Patient Placement	Medium-stay	Long-stay
Died	17	
At Home	27	
At R.E.H.	4	97
At Other Hosp./Inst.	13	4
Total	61	101

representing 5.2% of the admission cohort and 62% of the six months sample, attained long-stay status either at the R.E.H. or following transfer to another psychiatric hospital or institution. The remaining 61 patients, who had either died or were discharged, are referred to as medium-stay patients.

In this section a comparison is made between the long and medium-stay patients. In the process the characteristics of the long-stay patients will become apparent.

1. Social and Demographic Characteristics:

Table 4.23 shows the comparison of long and medium-stay patients on social and demographic characteristics. Age was the most significant factor differentiating the two groups. The chances of becoming long-stay increased progressively with increasing age from one in five in the under 25 age group to three out of four in the over 65 age group. No sex difference was found between the two groups, and this was the case even when age was controlled. Marital status served to differentiate significantly between the two groups, the main difference being between the single category on the one hand and those who were ever married on the other. Of the latter a slightly higher proportion of those who were divorced or separated became long-stay than those who were married or widowed. Living group from which admitted

Table 4.23

Comparison of Long-stay and Medium-stay Patients on Social and Demographic Factors

Variable	Medium-stay	Long-stay	Proportion becoming long-stay (%)
(1) Age on Admission			
-24	15	4	(21)
25-44	12	14	(54)
45-64	12	15	(56)
65+	22	68	(76)
	X^2 = 21.72	df 3	p<0.001
Mean Age	49.77	65.22	
S.D.	25.50	19.13	
	t = 4.09	df 160	p<0.001
(2) Sex			
Male	20	37	(65)
Female	41	64	(61)
	X^2 = 0.10	df 1	n.s.

Table 4.23 continued

Variable	Medium-stay	Long-stay	Proportion becoming long-stay (%)
(3) Marital Status			
Single	35	34	(49)
Married	10	24	(71)
Divorced/Separated	1	7	(88)
Widowed	15	36	(71)
$X^2 = 15.6$	df 3	$p<0.01$	
(4) Living Group			
Alone	9	24	(73)
Spouse	8	22	(73)
'Family'	23	21	(48)
Lodgs./Hosp./Inst.	16	31	(66)
Other	5	3	(38)
$X^2 = 9.32$	df 4	n.s.	
(5) Employment Status			
Unemployed	16	32	(67)
Student	10	0	(0)
Employed	9	0	(0)
Housewife Only	14	38	(73)
Retired	11	29	(73)
$X^2 = 36.04$	df 4	$p<0.001$	
(6) Social Class			
I, II	19	24	(56)
III	20	38	(66)
IV, V	18	26	(59)
$X^2 = 0.97$	df 2	n.s.	
(7) Existence of Relatives:			
Present - in Edinburgh	49	85	(63)
Present - Elsewhere	10	14	(58)
Known not to exist	1	2	(67)
$X^2 = 0.16$	df 2	n.s.	

failed to differentiate significantly between the two groups although proportionately more of those living alone, with spouse or in some form of institutional care were retained for 12 months than those admitted from other living group categories. Employment status significantly

differentiated between the two groups, with none of those who were in active employment or were students becoming long-stay compared to between two-thirds and three-quarters of those who were housewives only, unemployed or retired. Social class and the existence of living relatives both failed to discriminate between the two groups.

2. Admission Characteristics and Previous Psychiatric History

The findings under this heading are shown in Table 4.24. Source of referral and legal status on admission both failed to discriminate significantly between the two groups. The nature of admission, on the other hand, differentiated significantly between the two groups. A significantly higher proportion of patients who were admitted on emergency basis and were in current contact with the R.H.H. (Day or Outpatient) services attained long-stay status than those who were admitted from waiting lists, by appointment or as emergencies but were not in current contact. Admission ward function was also a powerful discriminator. Patients admitted to psychogeriatric, rehabilitation or acute admission wards were significantly more likely to become long-stay than those admitted to 'special units' or other wards.

With regard to their previous psychiatric history long-stay patients were significantly older at the time of their first psychiatric referral and first psychiatric admission than their medium-stay counterparts. However, there was no significant difference between the two groups either in the total number or duration of previous admissions. When the comparison was restricted to the twelve months preceding admission the number and duration of admissions during that year again failed to discriminate between the two groups although the chance of becoming long-stay progressively increased with both the number and duration of admissions.

Table 4.24

Comparison of Long-stay and Medium-stay Patients on Admission Characteristics and Previous Psychiatric History

Variable		Medium-stay	Long-stay	Proportion becoming long-stay (%)
(1) Source of Referral				
Self		7	19	(73)
General Practitioner		32	49	(60)
Staff of Other Hospital		13	20	(61)
Other		9	10	(53)
	$X^2 = 2.09$ df 3	n.s.		
(2) Classification on Admission				
Informal		51	91	(64)
Section 31		5	8	(62)
Other Section		5	5	(50)
	$X^2 = 0.76$ df 2	n.s.		
(3) Nature of Admission				
Emergency - no contact		10	7	(41)
Emergency - in contact		12	33	(73)
'Cold'		39	53	(58)
	$X^2 = 6.04$ df 2	p<0.05		
(4) Admission Ward Function				
'Special Unit'		20	0	(0)
Acute Admission		7	16	(70)
Rehabilitation		7	18	(72)
Psychogeriatric		18	64	(78)
Other		9	3	(25)
	$X^2 = 50.35$ df 4	p<0.001		
(5) Age at First Psychiatric Referral				
-24		21	12	(36)
25-44		12	15	(56)
45-64		7	16	(70)
65+		21	58	(73)
	$X^2 = 14.61$ df 3	p<0.01		
Mean		44.25	59.79	
S.D.		27.54	23.05	
	$t = 3.67$ df 159	p<0.001		

Table 4.24 continued

Variable	Medium-stay	Long-stay	Proportion becoming long-stay (%)
(6) Age at First Psychiatric Admission			
-24	20	11	(35)
25-44	12	13	(52)
45-64	8	18	(69)
65+	21	59	(74)
$X^2 = 15.59$	df 3	p<0.01	
Mean	45.47	60.92	
S.D.	27.16	22.20	
t = 3.73	df 159	p<0.001	
(7) Previous Psychiatric Admissions			
(a) Number:			
None	33	45	(58)
1-2	11	26	(70)
3-5	9	17	(65)
5+	7	13	(65)
$X^2 = 1.83$	df 3	n.s.	
(b) Duration:			
Nil	33	45	(58)
Up to 6 months	13	26	(67)
Up to 2 years	9	13	(59)
More than 2 years	4	16	(80)
$X^2 = 3.75$	df 3	n.s.	
(8) Psychiatric Care During Previous 12 Months			
(a) No. of Admissions:			
None	44	64	(58)
One Admission	14	20	(59)
More than One Admission	3	17	(85)
$X^2 = 4.94$	df 2	n.s.	
(b) Duration of Admissions:			
Nil	44	64	(58)
Up to One Month	7	9	(56)
Up to 6 Months	8	17	(68)
More than 6 Months	2	11	(85)
$X^2 = 3.70$	df 3	n.s.	

Table 4.24 continued

	Variable	Medium-stay	Long-stay	Proportion becoming long-stay (%)
(8)	(c) Time in Day Patient Care:			
	Nil	58	79	(58)
	Up to 6 Months	3	11	(79)
	More than 6 Months	0	8	(100)
	$X^2 = 7.55$ df 2 $p<0.05$			
	(d) No. of Outpatient Visits:			
	None	30	66	(69)
	1-5	13	27	(68)
	6-10	10	2	(17)
	10+	5	3	(38)
	$X^2 = 14.87$ df 3 $p<0.01$			

Day patient or outpatient attendance during the same period significantly influenced outcome. Those who had been day patients prior to admission were more likely to become long-stay than those who had not, and of the former all those who had spent more than 6 months in day patient care became long-stay. As for outpatient clinic attendance those who had not attended or were seen on less than 6 occasions were at least twice as likely to become long-stay as those who were seen on 6 or more occasions.

3. The First Six Months' Experience:

The factors differentiating the two groups are shown in Table 4.25. Change of ward during the first six months in hospital served to discriminate significantly between the two groups. A significantly higher proportion of patients who had experienced a change of ward became long-stay than those who had remained in the same ward or who had been temporarily transferred to another hospital (usually for investigation or treatment for physical condition). Change of junior doctor in charge,

Table 4.25

Comparison of Medium-stay and Long-stay Patients by the First Six Months' Experience

Variable	Medium-stay	Long-stay	Proportion becoming long-stay (%)
(1) Change of Ward			
No	20	26	(57)
Once	22	51	(70)
More than Once	8	19	(70)
Involving Transfer to Other Hospital	11	5	(31)
$X^2 = 9.75$	df 3	$p<0.05$	
(2) Change of Registrar			
No	10	15	(60)
Once	21	36	(63)
More than Once	30	50	(63)
$X^2 = 0.03$	df 2	n.s.	
(3) Percentage of Patients Who Received:			
(a) E.C.T.	(15)	(7)	
(b) Antidepressants	(20)	(22)	
(c) Phenothiazines	(67)	(82)*	
(d) Minor Tranquillizers	(16)	(11)	
(e) Other Psychotropic Drugs	(43)	(28)	
(f) Non-psychotropic Drugs	(62)	(74)	
(g) Night Sedatives	(59)	(75)*	
*p <0.05			
(4) Percentage Who Participated in:			
(a) Ward Meetings	(57)	(25)***	
(b) Ward O.T.	(56)	(62)	
(c) Departmental O.T.	(39)	(25)	
(d) Industrial Therapy	(11)	(12)	
(e) Working Outside Hospital	(30)	(3)***	
***p <0.001			
(5) Percentage Who Used:			
(a) Social Work	(61)	(42)*	
(b) Clinical Psychology	(33)	(12)**	
(c) Community Nursing	(7)	(3)	
(d) Other Specialist Services	(46)	(36)	
*p <0.05	**p <0.01		

experienced by the majority of patients in both groups, failed to differentiate significantly between the two groups. Physical and drug treatment received varied; phenothiazines, non-psychotropic drugs and night sedatives being most commonly prescribed and E.C.T. and minor tranquillizers least prescribed. However, it was only the proportion of patients who had received phenothiazines and night sedatives, both higher in the long-stay patients, which differentiated significantly between the two groups. Participation in therapeutic activities also revealed marked variation, but only participation in ward meetings and going to work outside the hospital served to discriminate significantly between the two groups, long-stay being associated with less participation in both. As for the various specialised services available to the patients proportionately fewer long-stay patients appear to have made use of any of them than medium-stay patients. However, the difference reached statistically significant levels for social work and clinical psychology services.

4. Contact with Others at Six Months

The results under this heading are shown in Table 4.26 and they relate mainly to the freedom of movement and amount of contact with others during the 30 days immediately preceding the first interview at six months. Only a small number of patients were not allowed to leave the ward during their sixth month in hospital. Patients who were allowed to leave the ward only when accompanied by staff or relatives had a significantly higher probability of becoming long-stay than those who were free to come and go without restriction. The same pattern was true for freedom to leave the hospital. The majority of patients who were not allowed to leave the hospital grounds became long-stay. The number of weekend passes granted to the patients during the month again

Table 4.26

Comparison of Medium-stay and Long-stay Patients on Amount of Contact with Others During Sixth Month

Variable	Medium-stay	Long-stay	Proportion becoming long-stay (%)
(1) Freedom to Leave Ward			
Not allowed out	2	2	(50)
Allowed if accompanied	17	63	(79)
Allowed unaccompanied	38	33	(46)
$X^2 = 17.10$	df 2	p<0.001	
(2) Freedom to Leave Hospital			
Not allowed out	4	15	(79)
Allowed if accompanied	18	54	(75)
Allowed unaccompanied	35	29	(45)
$X^2 = 15.12$	df 2	p<0.001	
(3) No. of Weekend Passes			
None	35	86	(71)
1-3	4	7	(64)
4	21	7	(25)
$X^2 = 20.56$	df 2	p<0.001	
(4) No. of Visits by Relatives			
None	22	17	(44)
1-4	13	27	(68)
5-12	10	36	(78)
13+	15	20	(57)
$X^2 = 11.60$	df 3	p<0.01	
(5) No. of Visits by Others			
None	35	64	(65)
1-4	16	25	(61)
5-12	7	8	(53)
13+	2	3	(60)
$X^2 = 0.72$	df 3	n.s.	
(6) No. of Interviews with Doctor(s):			
None	18	18	(50)
1	5	18	(78)
2-3	10	19	(66)
4	6	13	(68)
5+	14	14	(50)
$X^2 = 6.71$	df 4	n.s.	

Table 4.26 continued

Variable	Medium-stay	Long-stay	Proportion becoming long-stay (%)
(7) Desire to Leave Hospital			
Undecided	2	3	(60)
No	9	11	(55)
Yes, conditional	16	10	(38)
Yes, definitely	12	26	(68)
$X^2 = 5.59$	df 3	n.s.	

discriminated significantly between the two groups with the chances of becoming long-stay having a negative relationship to the number of weekends spent outside the hospital. It is worth noting here that a large number of patients, who were allowed to leave the hospital if they wanted, did not take advantage of weekend passes. This was usually because either they had no place to go to, or if they did, their relatives could not put them up for the night. The number of visits by relatives had a curious effect in that those who were never visited during the month and those who were visited very frequently (13 or more visits) were significantly less at risk of becoming long-stay than those who had between 1 and 12 visits. The number of visits by others, on the other hand, failed to differentiate significantly between the two groups. As for the number of interviews with the doctor(s) during the month, the difference did not reach statistically significant levels.

When asked whether they would like to leave the hospital 73 patients (45%) failed to respond. These were mainly demented patients who were not aware that they were in hospital. Proportionately more of these patients became long-stay (70%) than of those who responded (56%), but the difference was not statistically significant. Of the patients who

did give an answer proportionately more of those who said they did not know or stated a definite desire to leave the hospital became long-stay than those who did not want to leave or said they wanted to leave provided certain conditions were met, e.g. the provision of accommodation or their cure. The difference between the groups, however, did not reach statistical significance level.

5. Clinical State at Six Months

Table 4.27 gives the results of comparing medium and long-stay patients on their scores on the various rating scales administered at six months. The BPRS total pathology score failed to discriminate significantly between the two groups. When the 16 items which make up the scale were analysed separately on the single dimension of present or absent only two items discriminated between the two groups. These were Anxiety and Conceptual Disorganization both of which differentiated the groups at the 1% level of significance. A score of absent on Anxiety was associated with an increased probability of becoming long-stay while the reverse was true for Conceptual Disorganization. As for the two scores obtained from the Ward Behaviour Scale only the S.E. Score discriminated between the two groups. A score of 1 or over was associated with a higher probability of becoming long-stay than a score of zero. Although the S.W. Score did not differentiate significantly between the two groups there was a consistent trend of increased probability of becoming long-stay with increasing scores.

The doctors' ratings on employability, availability of accommodation and clinical assessment, and the consultant's prediction were all highly significant in discriminating between the two groups. None of the patients rated as being immediately employable with jobs available, 50% of those rated as employable but with no available jobs or likely to be

Table 4.27

Comparison of Medium-stay and Long-stay Patients on Various Rating Scales at Six Months

Rating Scale and Score			Medium-stay	Long-stay	Proportion becoming long-stay (%)
(1) BPRS Total Pathology Score:					
16-23			27	25	(48)
24+			42	42	(50)
	$X^2 = 0.00$	df 1	n.s.		
(2) Ward Behaviour Scale:					
(a) S.E. Score					
0			37	21	(36)
1+			45	55	(55)
	$X^2 = 4.46$	df 1	p<0.05		
(b) S.W. Score					
0-4			33	24	(42)
5+			45	54	(55)
	$X^2 = 1.76$	df 1	n.s.		
(3) Doctors' Ratings					
(a) Employability:					
Employable - work available			7	0	(0)
Employable - work unavailable			4	2	(50)
Likely after rehabilitation			12	12	(50)
Unlikely			25	85	(77)
	$X^2 = 25.81$	df 3	p<0.001		
(b) Accommodation:					
Available and suitable			20	0	(0)
Available, not suitable			10	11	(52)
Unavailable, but patient on waiting list			6	28	(82)
Unlikely to be found			18	52	(74)
	$X^2 = 44.24$	df 3	p<0.001		
(c) Form of Care Required:					
None			1	2	(67)
Day or Outpatient			20	3	(13)
In patient			17	13	(43)
Permanent institutional			19	81	(81)
	$X^2 = 43.73$	df 3	p<0.001		
(4) Consultant's Prediction:					
Will become long-stay			25	87	(78)
Will not become long-stay			30	8	(21)
	$X^2 = 39.15$	df 1	p<0.001		

employable after a period of rehabilitation, and 77% of those rated as unlikely to be employable proceeded to become long-stay. As for accommodation none of the patients for whom suitable accommodation was available in the community and one half of those for whom accommodation was available but considered unsuitable became long-stay. On the other hand 74% of the patients for whom alternative accommodation was rated as unlikely to be found and 82% of those for whom accommodation was not available at the time but were on waiting lists (e.g. for Local Authority accommodation) became long-stay. The doctors' rating regarding form of care required was based solely on the clinical assessment of the patient's condition at six months. Of three patients considered to require no psychiatric care two (67%) proceeded to become long-stay. Of the rest of the patients, who were considered to be in need of psychiatric care, 13% of those recommended for day or outpatient care, 43% of those recommended for further inpatient care, and 81% of those considered to require permanent institutional care actually proceeded to become long-stay. As for the consultant's prediction, 78% of patients predicted to become long-stay and 21% of those predicted not to become long-stay actually attained that status. Thus the consultants correctly predicted the outcome of 78% of 150 patients where unequivocal statements were given. For 12 patients the consultants' statements were either vague, complex or non-commital. Interestingly 6 of these patients (50%) actually became long-stay.

Table 4.28 shows the comparison of medium and long-stay patients on principal hospital diagnosis and research project diagnosis. Using the former, patients receiving the diagnosis of senile or presenile dementia, alcoholic psychosis, mental retardation and non-psychiatric (physical) illness showed a high risk; and those receiving the diagnosis of affective

Table 4.28

Comparison of Medium-stay and Long-stay Patients by Diagnosis at Six Months

Principal Hospital Diagnosis (ICD Code)	Medium-stay	Long-stay	Proportion becoming long-stay (%)
Senile and Presenile Dementia (290)	19	58	(75)
Schizophrenia (295)	9	10	(53)
Affective Psychosis (296)	12	6	(33)
Alcoholic Psychosis (291)	1	7	(88)
Transient Situational Disturbance (307)	7	0	(0)
Other Neurotic Disorders (302, 6, 9)	2	4	(67)
Neuroses (300)	4	1	(20)
Personality Disorders (301)	2	3	(60)
Other Psychoses (298, 9)	2	1	(33)
Mental Retardation (310-15)	0	3	(100)
Paranoid States (297)	1	1	(50)
Alcoholism (303)	1	1	(50)
Psychoses with Physical Condition (293)	1	0	(0)
Other Non-Psychiatric Conditions (340,436)	0	2	(100)
Principal Research Project Diagnosis			
Organic Brain Syndrome	15	56	(79)
Primary Affective Disorders-Depression	11	4	(27
Schizophrenia	5	6	(55)
Alcoholism	2	3	(60)
Secondary Affective Disorders	1	2	(67)
Anxiety Neurosis	2	0	(0)
Mental Retardation	0	2	(100)
Primary Affective Disorders - Mania	1	0	(0)
Antisocial Personality Disorder	0	1	(100)
Undiagnosed Psychiatric Illness	18	22	(55)
No Psychiatric Illness	3	2	(40)

psychosis, transient situational disturbance, neurosis, other psychosis and psychosis associated with physical condition a low risk of becoming long-stay. However, it must be noted that the numbers in many of these diagnostic categories are so small as to prohibit the use of statistical techniques to test for significance. The same applies to the table showing the distribution by research project diagnosis. Here, however, the

diagnoses of organic brain syndrome, mental retardation and antisocial personality disorder were associated with a higher risk, and the diagnosis of primary affective disorders (both depression and mania) and anxiety neurosis with a lower risk of becoming long-stay than other diagnostic categories. It will be noted that one-quarter of the patients received the label of undiagnosed psychiatric illness.

SUMMARY

The findings so far show that 62% of patients in the six months sample have become long-stay. The sex and social class distribution of these long-stay patients was not different from that of the medium-stay patients. However, the former were significantly older, less likely to be single and more likely to be classified as housewives only, retired or unemployed. They were also more likely to have been admitted on emergency basis to a psychogeriatric, rehabilitation or acute admission ward. They were older at their first ever psychiatric referral and admission than the medium-stay patients. They were also more likely to have spent some time in day patient care and little or no time in outpatient care in the 12 months preceding their current admission.

During their first six months in hospital the long-stay patients had experienced several changes of ward and received phenothiazines and/or night sedatives. They tended not to participate in ward meetings and were less likely to go to work from the hospital. They had comparatively less involvement of social workers or clinical psychologists in their treatment. At six months their freedom to leave the hospital or the ward was restricted and they were usually allowed out only when escorted. They obtained few weekend passes, but were frequently visited by their relatives.

Clinically they obtained higher S.E. scores than the medium-stay patients. Their doctors tended to rate them as unlikely to be employable, unlikely to be accommodated in the community or on waiting lists for accommodation that was unavailable at the time, and requiring permanent institutional care. The consultants were more likely to predict that these patients would in fact become long-stay.

6. The Second Six Months' Experience

Most of the variables examined under this section apply only to the medium-stay patients and only a few would be relevant to the long-stay patients. The data will therefore be presented mainly as a descriptive account of the medium-stay patients' experience during the second six months with occasional reference, where appropriate, to the long-stay patients.

Of 49 patients who were discharged from the R.E.H. after the 6th but before the 12 months two (4%) took their own discharge, 38 (78%) were discharged by mutual consent and 9 (18%) were transferred to other hospitals or nursing homes. This last category included four patients who eventually became long-stay; their 12 month long hospitalization having been interrupted only by the technicality of transfer to another hospital. The R.E.H. staff assumed responsibility for the after-care of the majority of the discharged patients on either outpatient or day-patient basis. Half the patients were discharged to first degree relatives, usually parents. The remainder were discharged to lodgings, other hospitals or to live alone. The length of hospital stay for these patients varied, from exactly six months (4 patients) to over eleven months (3 patients). To the latter can be added one patient who accumulated 11 months in hospital following readmission, thus bringing the number of patients who spent eleven out of twelve months in hospital

to four or 8% of all those discharged.

Only 8 patients (17%) relapsed, 6 were readmitted to the R.E.H. and 2 to other psychiatric hospitals. As for admissions to general hospitals 4 patients were admitted once and one patient was admitted twice during the second six months. The pattern was similar to that of the long-stay patients (Table 4.29) five of whom had one admission each. All these admissions were on account of physical illness and none for parasuicide.

Table 4.29

Admissions to General Hospitals by Length of Stay

No. of Admissions	Medium-stay (%)	Long-stay (%)
None	54 (91)	96 (95)
One Admission	4 (7)	5 (5)
Two Admissions	1 (2)	0

$X^2 = 1.98$ df 2 n.s.

Day patient attendance for the eleven patients discharged to this form of care was calculated as average number of weeks per month for the whole period following discharge. Two patients (18%) spent an average of 2 weeks per month and three patients (27%) each averaged one, three and four weeks per month in care. Outpatient attendance was also calculated for the 26 patients discharged to this form of care as average number of visits per month for the whole period outside the hospital. One patient never attended, 11 attended on average once a month, 6 twice a month, a further 6 up to four times a month and 2 more than 4 times a month.

Sixteen of the seventeen deaths occurred at the R.E.H., the patient never having left the hospital. One patient died following transfer to a general hospital. The cause of death in 4 cases was given as a secondary condition present at admission and in 13 cases as other condition, the majority being bronchopneumonia following a minor influenza epidemic during 1975. None of the deaths were by suicide. The duration of hospitalization for these patients varied from exactly six months (2 patients) to over 10 months (3 patients).

7. Placement and Condition at 12 Months

At follow-up the placement of the medium-stay patients was as follows. Seventeen patients had died, 4 were back at the R.E.H., 27 were at home, 3 were in other psychiatric hospital or institution, 5 were in general hospital or nursing home and 5 were in hostels for ex-patients. An alternative breakdown by living group at 12 months showed 22 patients to be living with a first degree relative (15 with parents, 3 with spouses, 3 with children and one with a sibling), 6 living alone, 7 in lodgings or institutions, and 9 in hospitals or nursing homes.

Table 4.30 shows the employment status at 12 months for all patients under 65 years of age. Twenty (57%) medium-stay patients were either students (n = 8) or actively employed (n = 12) compared to none of the long-stay patients, and 11 (31%) medium-stay patients were unemployed compared to 26 (79%) long-stay patients. The proportions of housewives were similar in both groups and 3 (9%) long-stay patients were retired compared to none of the medium-stay patients. These findings were again reflected in the source of income at 12 months which showed 11 (31%) medium-stay patients to be living off employment earnings compared to none of the long-stay patients the majority (68%) of whom had either no

Table 4.30

Characteristics of Patients at 12 Months by Length of Stay

Variables	Medium-stay (%)	Long-stay (%)
(1) Employment Status		
Unemployed	11 (31)	26 (79)
Student	8 (23)	0
Employed	12 (34)	0
Housewife Only	4 (11)	4 (12)
Retired	0	3 (9)
$X^2 = 29.04$	df 4	$p<0.001$
(2) Source of Income		
None or Unearned	17 (47)	69 (68)
Pension or S.S. Benefit	8 (22)	32 (32)
Employment Earnings	11 (31)	0
$X^2 = 33.54$	df 2	$p<0.001$
(3) Marital Status		
Single	27 (63)	33 (33)
Married	5 (12)	23 (23)
Div./Sep.	1 (2)	8 (8)
Widowed	10 (23)	37 (37)
$X^2 = 11.59$	df 3	$p<0.01$

income or unearned income. However, it is worth noting that 47% of medium-stay patients were in this latter category. Marital status at 12 months discriminated significantly between the two groups. Just over one-third of the medium-stay patients were ever married compared to two-thirds of the long-stay patients. Legal status at 12 months failed to differentiate between the two groups; 4 (4%) long-stay and 4 (9%) medium-stay patients were on compulsory order. All the latter were on leave of absence and would have appeared in the hospital returns as inpatients although they were at home.

Table 4.31 shows the current psychiatric treatment at 12 months by length of stay. The first part shows the number of visits to or interviews with psychiatrists, clinical psychologists and social

Table 4.31

Psychiatric Treatment at 12 Months by Length of Stay

Variable			Medium-stay (%)	Long-stay (%)
(1) Visits/Interviews to/with				
(a) Psychiatrist:				
0			14 (33)	30 (31)
1			4 (9)	24 (24)
2-4			16 (37)	20 (20)
4+			9 (21)	24 (24)
	$X^2 = 6.91$	df 3	n.s.	
(b) Clinical Psychologist:				
None			39 (91)	95 (95)
One or More			4 (9)	5 (5)
	$X^2 = 0.35$	df 1	n.s.	
(c) P.S.W.				
None			30 (70)	92 (93)
One or More			13 (30)	7 (7)
	$X^2 = 11.44$	df 1	p<0.001	
(2) Formal Psychotherapy:				
(a) Individual:				
None			40 (91)	101 (100)
Some			4 (9)	0
	$X^2 = 6.35$	df 1	p<0.02	
(b) Group:				
None			41 (93)	100 (99)
Some			3 (7)	1 (1)
	$X^2 = 2.01$	df 1	n.s.	
(3) Drug Treatment:				
(a) Long-acting Phenothiazines:				
None			36 (82)	96 (95)
Some			8 (18)	5 (5)
	$X^2 = 5.05$	df 1	p<0.05	
(b) Lithium:				
None			36 (82)	98 (97)
Some			8 (18)	3 (3)
	$X^2 = 8.06$	df 1	p<0.01	

Table 4.31 continued

Variable	Medium-stay (%)	Long-stay (%)
(3) (c) Other Drugs - number (%) receiving:		
Antidepressants	5 (11)	10 (10)
Phenothiazines	10 (23)	64 (63)***
Minor Tranquillizers	1 (2)	6 (6)
Other Psychotropic Drugs	9 (20)	17 (17)
Non-psychotropic Drugs	13 (30)	55 (54)**
Night Sedatives	4 (9)	39 (39)***

**p<0.01 ***p<0.001

workers during the 11th and 12th months (i.e. the two months preceding the follow-up interview) as a measure of the demand for, and use of, their services. There was no significant difference between the two groups as far as the number of interviews with psychiatrists or clinical psychologists was concerned. The number of visits by the social worker discriminated significantly between the two groups with 30% of medium-stay patients having had social work involvement compared to only 7% of the long-stay patients.

There were differences between the two groups in the types of treatment received at 12 months. Four (9%) medium-stay patients were receiving 'formal' individual psychotherapy and 3 (7%) 'formal' group psychotherapy compared to none and one (1%) long-stay patient respectively. The former difference was statistically significant but not the latter. Proportionately more medium-stay patients were receiving maintenance long-acting phenothiazines or lithium than long-stay patients. Significantly fewer medium-stay patients were receiving phenothiazines, night sedatives or non-psychotropic drugs.

Table 4.32 gives the overall functioning and clinical rating scales

Table 4.32

Overall Functioning and Clinical Ratings at 12 Months by Length of Stay in Hospital

Rating Scale and Score		Medium-stay (%)	Long-stay (%)
(1) Overall Functioning Ratings:			
(a) Physical State			
0	Constant care/supervision required	2 (5)	26 (26)
1	Some care/supervision required	5 (11)	34 (34)
2	No care/supervision required	36 (84)	41 (40)
	$X^2 = 22.80$ df 2	p<0.001	
(b) Level of activity:			
0	Mostly inactive	4 (9)	26 (26)
1	Moderately active	7 (17)	15 (15)
2	Normally active	31 (74)	58 (59)
	$X^2 = 5.01$ df 2	n.s.	
(c) Occupational Functioning:			
0	Does little useful work	12 (28)	80 (79)
1	Able to do some work	10 (24)	21 (21)
2	Normal functioning	20 (48)	0
	$X^2 = 60.04$ df 2	p<0.001	
(d) Social Functioning:			
0	Visits less than once a week	18 (45)	74 (74)
1	Visits once or twice a week	6 (15)	20 (20)
2	Visits more than twice a week	16 (40)	6 (6)
	$X^2 = 25.06$ df 2	p<0.001	
(e) Supportive Group:			
0	Lives isolated from relatives	20 (46)	101 (100)
1	Lives with or near relatives	2 (5)	0
2	Lives with or near own family	21 (49)	0
	$X^2 = 64.29$ df 2	p<0.001	
(f) Total Overall Functioning Score			
0-3		7 (18)	56 (57)
4+		32 (82)	42 (43)
	$X^2 = 15.71$ df 1	p<0.001	
(2) BPRS Score			
16-22		20 (51)	38 (49)
23+		19 (49)	39 (51)
	$X^2 = 0.0$ n.s.		

Table 4.32 continued

Rating Scale and Score				Medium-stay (%)	Long-stay (%)
(3) Ward Behaviour Scale					
(a) S.E. Score:					
0				8 (57)	53 (53)
1+				6 (43)	47 (47)
	$X^2 = 0.0$	n.s.			
(b) S.W. Score:					
0-4				9 (69)	45 (45)
5+				4 (31)	55 (55)
	$X^2 = 1.82$	df 1	n.s.		

scores at 12 months. The physical state rating concerns the need for nursing care and supervision. A significantly higher proportion of long-stay patients (60%) were rated as requiring some nursing care than medium-stay patients. Level of activity rates the degree of spontaneous activity exhibited by the patient regardless of the task undertaken. Proportionately more long-stay patients were rated as being inactive than medium-stay patients, but the difference did not reach statistical significance levels. Occupational functioning ratings are more task oriented (see Appendix B) and concern the patient's ability to cope with occupational tasks at work or at home. Nearly half (48%) of the medium-stay patients were functioning at optimum levels compared to none of the long-stay patients the majority of whom did little, if any, work. Social functioning rates the number of visits to friends, relatives or clubs as an index of social interaction. Supportive group refers to the living group situation and indicates the degree of isolation from, or integration with, family and relatives. These two indices were used mainly to see what proportion of medium-stay patients would in fact

obtain the same score as the majority of the long-stay patients. As expected most of the latter obtained the minimum score of zero on both occasions. However, nearly half of the medium-stay patients obtained the same score, indicating that they did not fare that much better than their long-stay colleagues in these two areas. The overall functioning score is a product of adding up the individual scores on all but the last one (supportive group). This served to discriminate significantly between the two groups. Only 18% of the medium-stay patients scored below the median score of 3.75 compared to 57% of the long-stay patients. The median score was also taken as a cut-off point for the BPRS and Ward Behaviour Scale scores. There was no significant difference between the two groups in their scores on both scales. However, when the individual items were examined separately, again on the simple dimension of present or absent, the BPRS items of emotional withdrawal, conceptual disorganisation, motor retardation and blunted affect all discriminated significantly between the two groups with proportionately more long-stay patients scoring the presence of symptoms in all 4 items. Two of the items making up the S.W. Score of the Ward Behaviour Scales, personal hygiene and personal appearance, also discriminated significantly between the two groups, more long-stay patients scoring on them than medium-stay patients.

Table 4.33 gives the principal R.P. diagnosis at 12 months by length of hospital stay. The most striking feature amongst the long-stay patients was the large proportion of patients receiving the diagnosis of organic brain syndrome (61%) in relation to all other psychiatric disorders which, put together, came to a mere 13%. The respective proportions for medium-stay patients were 13% and 36%. The proportion of patients in the 'undiagnosed psychiatric illness category were similar at about a quarter

of the cases, but the proportion of patients with no psychiatric illness was considerably lower amongst the long-stay (3%) than the medium-stay patients (23%). Lastly, only 11 long-stay patients received a secondary R.P. label, 2 that of alcoholism, 1 that of antisocial personality disorder, and 8 that of undiagnosed psychiatric illness; and only 5 medium-stay patients received secondary labels, 1 that of organic brain syndrome and 4 that of undiagnosed psychiatric illness.

Table 4.33

Principal Research Project Diagnosis at 12 Months by Length of Stay in Hospital

Diagnosis	Medium-stay (%)	Long-stay (%)	Total (%)
Organic Brain Syndrome	5 (13)	60 (61)	65 (47)
Schizophrenia	5 (13)	5 (5)	10 (7)
Primary Affective Disorders: Depression	5 (13)	2 (2)	7 (5)
Alcoholism	1 (2.5)	3 (3)	4 (3)
Mental Retardation	0	3 (3)	3 (2)
Primary Affective Disorder: Mania	1 (2.5)	0	1 (1)
Phobic Neurosis	1 (2.5)	0	1 (1)
Anorexia Nervosa	1 (2.5)	0	1 (1)
Undiagnosed Psychiatric Illness	11 (28)	23 (23)	34 (24)
No Psychiatric Illness	9 (23)	3 (3)	12 (9)

SUMMARY

The factors which discriminated significantly between the medium and long-stay patients can be summarised as follows (unfavourable direction given in parenthesis):

(1) Admission Data:

Age (65+)

Marital Status (ever married)

Employment Status (unemployed, retired, housewife only)

Nature of Admission (emergency in current contact with service)

Admission Ward Function (psychogeriatric, rehabilitation, acute admission)

Age at First Ever Psychiatric Referral (45+)

Age at First Ever Psychiatric Admission (45+)

Time in Day Patient Care Previous 12 Months (6 months +)

Outpatient Care Previous 12 Months (none or less than 6 visits)

(2) Six Months Data:

Change of Ward (more than once)

Drugs Received (phenothiazines, night sedatives)

Ward Activities (no ward meetings, no work outside hospital)

Use of Services (no use of social work or clinical psychology services)

Freedom to Leave Ward (only when escorted)

Freedom to Leave Hospital (restricted or only when escorted)

Weekend Passes (none)

Visits by Relatives (yes, frequent)

Ward Behaviour Scale (S.E. score of 1+)

Employability Rating (unlikely to be employable)

Accommodation Rating (on waiting list or unlikely to be found)

Psychiatric Care Required (none or permanent institutional)

Consultant's Prediction (will become long-stay)

Hospital Diagnosis (dementia, alcoholic psychosis, mental retardation, other non-psychiatric condition)

R.P. Diagnosis (organic brain syndrome, mental retardation, antisocial personality disorder)

(3) Twelve Month Data:

Employment Status (unemployed)

Source of Income (none or unearned)

Marital Status (ever married)

P.S.W. Involvement (not involved)

Formal Individual Psychotherapy (none)

Drug Treatment (phenothiazines, non-psychotropic drugs, night sedatives, no long-acting phenothiazines, no lithium)

Physical State Rating (nursing care/supervision required)

Occupational Functioning Rating (little or no work)

Social Functioning Rating (does not visit)

Supportive Group Rating (isolated from relatives)

Overall Functioning Score (less than 4)

R.P. Diagnosis (organic brain syndrome)

(D) THREE GROUPS OF PATIENTS

So far the six months sample has been considered as a whole with little attention being paid to the various types of patients that make it up. Before proceeding to the next section it may be useful to pause and reconsider the findings as they apply to 3 types of patients. This may make the task of constructing a scale predictive of long-stay status relatively easier.

From the descriptive account of the six months sample, patients with dementia have emerged as the largest single diagnostic category, and subsequent analysis has shown them to be largely homogeneous. Because of this, and also because their sheer size and homogeneity might have obscured the effect of some factors on the outcome of other subgroups of patients, these patients should be considered separately.

The remainder of the six months sample will all be considered together except for those patients who were admitted to the Young People's Unit (YPU). The latter will be excluded, and described separately, because for them the attainment of medium-stay status was the result of a policy decision and preselection. The YPU has an explicit policy of admitting disturbed adolescents only after a period of outpatient assessment during which a contract is negotiated which binds the patient to a stay of between 6 and 9 months in hospital.

Thus the three groups to be considered in this section are patients with dementia, those admitted to the YPU, and the remainder of the six months sample.

1. Patients with Dementia

The principal hospital diagnosis of senile or presenile dementia was received by 77 patients the majority (73%) of whom were women, and

91% of whom were over 65 years of age. They were classified largely as housewives only (46%) or retired (43%), and the majority belonged to the middle (48%) or upper (32%) social classes. Nearly half (48%) of them were widowed and a further 27% were single. One-quarter were living alone and 42% with a first degree relative. Nearly all of them had living relatives, usually in Edinburgh.

They were usually referred by G.P.'s or other hospital staff and most of the admissions were prearranged or from waiting lists, usually on informal basis, to a psychogeriatric ward. The majority (72%) had no history of previous psychiatric referrals or admissions. During their first six months in hospital they invariably experienced frequent changes of ward and of registrars looking after them. Most of them received phenothiazines, night sedatives and non-psychotropic drugs and were on regular maintenance medication at six months. They tended to be inactive, rarely participating in occupational or other ward activities. The amount of contact with their doctors varied, but one-third had not seen a doctor during the sixth month. They were frequently visited by their relatives, but not by friends and others. Their freedom to leave the ward or hospital was restricted and they were rarely given weekend passes. Very few of these patients indeed realized that they were in hospital.

As for their clinical state at six months only 57 patients (74%) had valid BPRS total pathology scores (range 16-42), and of these more than half scored within 9 points of the minimum score. Hardly any of the patients scored the items of hallucinatory behaviour, guilt feelings, suspiciousness, or grandiosity. The items most frequently scored were motor retardation and conceptual disorganization. On the Ward Behaviour

Scale 40% of the patients had an S.E. score of zero and an additional 43% a score of one or two. There was, however, a more even spread of S.W. scores with only 3 patients scoring zero and 50% of the patients accounted for by the mid-point score of 8. The individual items most frequently scored were (neglect of) personal appearance, (lack of) leisure interest, social withdrawal and (neglect of) personal hygiene - all S.W. score items. The items least frequently scored were posturing and mannerisms, laughing and talking to self, over-activity and threatening or violent behaviour - the four items that make up the S.E. score. The doctors rated most of them as being unemployable, unlikely to be accommodated in the community and in need of permanent institutional care. The consultants predicted that 97% of them would become long-stay.

As it turned out by the 12th month 58 patients (75%) had become long-stay and 15 patients (19%) had died. Of the remaining 4 patients, 2 were in general hospital/nursing home, one in other institution and one at home with children. Those who became long-stay were, relatively speaking, significantly ($p<0.05$) younger than the rest. Those who died were thus much older.

At 12 months the majority of the patients were rated as requiring some form of supervision or nursing care, but 11 patients (18%) were considered to require neither. Most of the patients were rated as being largely inactive, but again 23 patients (38%) were considered to be normally active for their age. Nearly all the patients received very low ratings on both occupational and social functioning.

The patients had less contact with their doctors at 12 months than they did at 6 months, with 42% of them never having seen their doctors during their 11th and 12th months in hospital. There was also little or no involvement of the social workers or clinical psychologists in their

treatment. The drugs administered at 12 months consisted mainly of phenothiazines to some 66%, non-psychotropic drugs to 65% and night sedatives to 47% of the patients.

As for the clinical state at 12 months, the BPRS total pathology scores were noticeably lower than at 6 months with 50% of the patients scoring within 5 points of the minimum score of 16. However, the frequency of scoring on individual items was broadly similar to that at 6 months except that fewer patients scored on anxiety and hostility, and more scored on hallucinatory behaviour. On the Ward Behaviour Scale the pattern of scoring was almost identical to that at 6 months for both the S.E. and S.W. scores. However, on the individual items fewer patients scored on threatening and violent behaviour, overactivity and posturing and mannerisms, and more scored on laughing and talking to self.

Lastly, since nearly all these patients proceeded to become long-stay, and considering that the characteristics of those who had died, except for age, were very similar indeed to those who became long-stay, it seems reasonable to say that the diagnosis of dementia *per se* is a very powerful predictor of long-stay status.

2. The Adolescents

There were nine adolescents in the six months sample who were admitted to the YPU, three of them from outside Edinburgh. There were 2 boys and 7 girls all of whom were single and with a mean age of 16.3 $\pm$ 1.3 years. All, except for one who was working, were students and their social class distribution was 4 in the upper, 4 in the middle and one in the lower social classes. The majority lived with their parents and nearly all of them had family or relatives in Edinburgh.

They tended to be referred by their G.P.'s and were invariably admitted from the waiting list following a lengthy outpatient treatment/ assessment procedure. Nearly half were admitted on a Social Work Department Supervision Order (Sections 44, 48). Two of them previously had one brief psychiatric admission each.

They all remained in the same Unit for the duration of their admission and, although each were technically under the care of one doctor, individual interviews rarely took place. The diagnosis was invariably that of adolescent crisis, the equivalent ICD category being that of transient situational disturbance (ICD code 307). Treatment consisted of group psychotherapy and family therapy sessions and no drugs were prescribed except for one patient who required phenothiazines at one stage. There was no restriction on patients movements, they all attended school or worked and all went home every weekend. Visiting on the Unit, however, was not encouraged. Social workers and psychologists were involved in almost every case.

Clinically they were characterised by their low level of symptomatology at six months. The majority obtained a score of zero on both the S.E. and S.W. scores of the Ward Behaviour Scale. All patients were accounted for by a BPRS score of 23 which is within 7 points of the minimum score of 16. BPRS scores at 12 months were even lower, except for one patient who obtained a score of 35. The commonest individual symptom was that of anxiety.

All patients except one were discharged by mutual consent to their parents' custody and were followed up as outpatients by YPU staff well into the 12th month. Only one patient relapsed and at 12 months was in another psychiatric hospital. Eight remained well, functioning at optimum

levels, four attending school and two gainfully employed.

3. The General Psychiatric Patients

After excluding the patients with dementia and adolescents, the variety of adult patients one is left with are presumably the main concern of general psychiatry. Hence, for lack of a better one, is the title.

There were 76 patients in this group, 34 (45%) men and 42 (55%) women. They included 10 of the 15 patients who were found to have been admitted from outside Edinburgh. All except 2 had living relatives, although not always in Edinburgh. Half were single, 21% married and 18% widowed. Nearly half (45%) were living with a first degree relative and 18% living alone. They were largely unemployed (54%) or housewives only (24%). Their social class distribution revealed an excess in the lower (43%) compared to the middle (31%) and upper (26%) social classes.

These patients were admitted largely by prior arrangement (45%) or as emergencies in current contact with the services (40%). Twelve patients (16%) were admitted on a compulsory order. Two-fifths of the admissions were to acute admission wards and one fifth each to rehabilitation and psychogeriatric wards. The majority of the patients had a long psychiatric history, 25% had more than 5 previous admissions and 39% had spent a total of more than one year in psychiatric hospitals. The commonest hospital diagnoses were those of schizophrenia (26%), affective psychosis (25%) and alcoholic psychosis (11%).

During their first 6 months in hospital the majority had experienced changes of both wards and doctors in charge. They all had received a variety of drugs and 18% had received E.C.T. The majority (78%) were on regular maintenance medication at 6 months. Most of the patients took

part in occupational or industrial therapy and 18% were working from the hospital. They were regularly interviewed by their doctors and 35% were seen more than once a week. There was usually no restriction on their movements in or outside the hospital. The majority were visited regularly by their relatives and 36% of them were visited more than once a week. Visits by friends were less frequent and 59% received no visits from friends.

As for their clinical state at six months, the BPRS total pathology scores tended to be low (range 16-52) with 54% of the patients scoring within 7 points of the minimum score. The same was true of the Ward Behaviour Scale where 61% of the patients obtained an S.E. score of zero and 70% were accounted for by an S.W. score of 3. The commonest BPRS items scored were motor retardation, anxiety and blunted affect; and the rarest were grandiosity, hallucinatory behaviour, conceptual disorganisation and hostility. On the Ward Behavioural Scale the items most frequently scored were social withdrawal and (lack of) leisure interests, and those least frequently scored were (inappropriate) behaviour at meal times, (neglect of) personal hygiene and posturing and mannerisms. At 12 months there was no significant change in the pattern of scoring either on the individual items or the total scores. The doctors rated 49% of the patients as unemployable, 55% as unlikely to be accommodated in the community and 38% as requiring permanent institutional care. The consultants predicted 58% of them to become long-stay.

By the time of follow-up 43 patients (47%) had become long-stay, 39 of them at the R.E.H. and 4 at other psychiatric hospitals. Of the remainder (medium-stay) 2 had died, 4 were back at the R.E.H. following

discharge, 2 were in general hospital/nursing home, 6 were in lodgings/ institutions, and 19 were at home.

In this group the following factors discriminated significantly between the medium and long-stay patients (see Tables in Appendix C). The unfavourable direction is given in parenthesis.

(1) On Admission

Age (65+)

Employment Status (retired, unemployed, housewife only)

Ward Function (rehabilitation, psychogeriatric)

(2) At 6 Months

Ward Function (psychogeriatric, rehabilitation, acute admission)

'Other' Psychotropic Drugs Received (none)

Work Outside Hospital (none)

Social Worker Involvement (none)

Freedom to Leave the Ward (only if accompanied)

Weekend Passes Obtained (none)

Desire to Leave Hospital (undecided or yes, definitely)

Accommodation Rating (unavailable, unlikely to be found)

Employability Rating (unlikely to be employable)

Form of Care Required (permanent institutional)

Consultant's Prediction (will become long-stay)

(3) At 12 Months

Phenothiazines Received (yes)

Occupational Functioning (does little useful work)

(E) THE PREDICTIVE SCALES

This part of the study is merely an explorative exercise. The object is to produce two scales: one based on the admission data and capable of 'predicting' retention in hospital for 6 months, and another based on the six months data and capable of 'predicting' retention for 12 months. The first scale was made up of the eleven variables which discriminated significantly between short-stay patients and the six months sample as outlined in Section B of the results. Similarly, the second scale was made up of the 13 variables which were found to be significant in discriminating between medium and long-stay patients as outlined in Section D. In each case two simple scoring methods were used. Initially, the variables were scored on a two-point (0, 1) scale, a score of one indicating the unfavourable direction of the variable. The total scale score was calculated by adding up the individual variable scores. The range of the first scale scores was thus 0-11 and that of the second scale 0-13. The total scale scores were then tabulated against outcome, giving a 2 by 11 and a 2 by 13 table, respectively. An optimum cut-off point was then chosen in such a way as to give the maximum number of correct 'predictions'. The results are presented in two-by-two (outcome by score) tables.

The two-point method of scoring was consistently found to be unsatisfactory, the cut-off point producing either too many false positives or too many false negatives. A three-point scoring system was then employed so as to take into account both the favourable (-1) and unfavourable (+1) direction of the variables. This produced better results both in terms of the proportion of correct predictions and the correlation of the scores with outcome. The two scales reported here were both constructed using this scoring system.

The method described is clearly not the best one for constructing a predictive scale. It fails to take into account the relative weights of the different variables. Also, and since it does not take into account the interactions between the various variables, it may allow redundant variables to be included in the scales. The use of more sophisticated statistical techniques, for instance multiple regression analysis, may have been more appropriate here; but to undertake this would have meant a major and time-consuming task well beyond the scope and the aims of this study. It was thus a deliberate decision to use the simple method outlined to construct the scales for, although they may not be completely satisfactory, they will certainly be a beginning and may serve as a basis for further research in this area.

1. Scale I: Predicting Retention for Six Months

This scale was constructed and scored in the following manner.

VARIABLE	SCORE		
	-1	0	+1
1. Sex	-	Male	Female
2. Age on Admission	15-64	-	65+
3. Marital Status	Married/Div./Sep.	-	Single/Widowed
4. Living Group	Spouse	-	All Other
5. Work Status	Working/(Off sick)*	All Other	Retired
6. Time in Inpatient Care Prev. 12 months	Up to One Month	Nil	More than One Month
7. Source of Referral	Self/Psych. Service	General Hospital	Other
8. Legal Status On Admission	-	Informal	Compulsory
9. Most Recent Psych. Care	At Other Hospital	At R.E.H.	None
10. Admission Ward Function	Acute Adm./Special Unit	Other	Rehab./Psychogeriat.
11. Principal Diagnosis on Admission (ICD Code)	296, 300-306, 308-315, 790	295, 298, 299, 307	290, 291, 293, 294, 297, Other

*Applies only to males

Using this scale the best cut-off point was found to lie between

Table 4.34

Patient Category	Score		Totals
	less than 1	1+	
Discharged by 6 months	1379	393	1772
Retained for 6 months	40	122	162
Totals	1419	515	1934

a score of zero and one. Thus a positive score was taken as a 'predictor' of retention for 6 months and a negative score or a score of zero as a 'predictor' of short-stay. This gave a total of 1501 (77.6%) correct 'predictions' including 122 (75%) six months patients who were correctly classified (Table 4.34); but this was done at the expense of increasing the number of the false positives with the result that these 122 patients were a mere 24% of all patients obtaining a positive score. However, in spite of the large proportion of misclassifications, low scorers had only a 3% chance of remaining in hospital for 6 months while high scorers had an eight fold greater (24%) chance of doing so. Thus, although not altogether satisfactory, the scale may help to identify those patients at risk of remaining in hospital for six months. Using such a scale, a large number of false positives is not as serious a handicap as a large number of false negatives. This point will be discussed in more detail in the next chapter.

It should be noted that this scale was constructed according to the results outlined in the first part of Section B before age was controlled.

Two separate scales for those over and those under 65 years of age, based on the findings outlined in the second part of that section, failed to improve the scale.

2. Scale II: Predicting Retention for 12 Months

For the purpose of constructing this scale all admissions to the Y.P.U. were excluded because of the anomalies discussed in Section D. Similarly, since the diagnosis of dementia was found to be the most powerful 'predictor' of retention for 12 months, it was decided to allocate all patients with this diagnosis an arbitrary score just above the optimal cut-off point of the scale thus, in effect, 'predicting' that they would all become long-stay.

The scale was thus based on those six months' variables which were found to be operative within the 'general psychiatric patient' sub-group of the six months sample (See Section D, Part 3). It was constructed and scored in the following manner.

VARIABLE	SCORE		
	-1	0	+1
1. Age	-	15-64	65+
2. Employment Status	Student/Employed (working)	-	All Other
3. Adm. Ward Function	Special Unit	Other	Rehabilitation/ Psychogeriatric
4. Ward Function at 6/12	Special Unit	Other	Rehabilitation/Psycho-geriatric/Acute Admission
5. Working from Hospital	Yes	-	No
6. Social Worker	-	Involved	Not Involved
7. Freedom to Leave Ward	Restricted	Allowed - accompanied	Allowed only when accompanied
8. No. of Weekend Passes	4+	1-3	None
9. Desire to Leave Hosp.	Yes, conditional	No	Yes, definitely
10. Accommodation Rating	0	1	2, 3
11. Employment Rating	0	1, 2	3
12. Care Requirement	Day or Outpatient	None/Inpatient	Permanent Institutional
13. Consultant's Prediction	Will not become long-stay	-	Will become long-stay

When the scale was applied to the 'general psychiatric patient' category, the optimal cut-off point was found to lie between a score of 4 and 5; a score of 5 or over was, therefore, taken as a 'predictor' of retention for 12 months. As shown in Table 4.35 this gave 63 (83%) correct 'predictions' overall, including 38 long-stay patients (88%) who were correctly classified. To this were then added the patients with dementia who had all been allocated a score of 5 (Table 4.36). This resulted in a total of 121 patients (79%) being correctly classified. Of the long-stay patients 95% were correctly classified. Thus low scorers had a 17% chance of becoming long-stay whereas high scorers had a 78% chance of doing so.

Table 4.35

The 'General Psychiatric Patient': Scale II Scores by Outcome

Patient Category	Score		Totals
	-4	5+	
Medium-stay	25	8	33
Long-stay	5	38	43
Totals	30	46	76

Table 4.36

The Six Months Sample: Scale II Scores by Outcome

Patient Category	Score		Totals
	-4	5+	
Medium-stay	25	27	52
Long-stay	5	96	101
Totals	30	123	153

The two scales appear to be reasonably satisfactory. They will, however, have to be cross-validated on an independent sample of patients before any firm conclusions can be drawn regarding their efficacy. Such a cross-validation exercise had not been one of the original aims of the present exercise; but it would certainly be worth understanding at a later opportunity.

Chapter V

DISCUSSION AND CONCLUSIONS

DISCUSSION

The findings of this study will be discussed in relation to (1) the findings of previous studies, (2) the hypotheses being tested, and (3) their implications to the management of the long-stay patients. Reference to the findings of previous studies will, however, be limited by the paucity of comparable data. For instance, the characteristics of patients retained in hospital for six months are to be found only in the study of Mezey and Evans (1968), and even then there is no comparison with the admission cohort.

Firstly, however, a comment about the accumulation of the 'new' long-stay patients. The proportions of the admission cohort retained for six months and 12 months (8% and 5% respectively) appear to conform very closely to the figures reported by Hailey (1971 and 1974) from Camberwell. They are, however, much lower than those found by Mezey and Evans (1968) in North London; but there the authors have commented on the continuing trend towards a reduction in the rate of accumulation of their long-stay population which, if it continued, would probably have reached comparable levels by now. It would thus seem that the rate of accumulation of long-stay patients is in fact 5% per annum as previously estimated by Hailey (1971).

The findings of this study were intended to be epidemiologically based, providing per capita rates for the hospital's catchment area. However, following the reorganisation of the Health Service in 1973, a sectorisation policy implemented by the Lothian Area Health Board late in 1974 resulted in some alterations to the R.E.H. catchment area. In addition, following the recent local government reorganisation, the difficulty in obtaining the appropriate population data made the accurate calculation of these rates impossible.

As for the characteristics of patients retained for six months, the excess of females, the elderly and the single category were expected, as was the large proportion of widowed women, and are in line with the findings of Mezey and Evans (1968). The fact that half the sample were living with a first degree relative, taken together with the regularity and frequency with which these patients were visited by their relatives, serves to dispel the notion that these patients are lacking social support. Equally, their social class distribution does not show them to be particularly disadvantaged. The only area of real disadvantage appears to be that of employment where the majority of patients, especially the men, were found to be out of work or past the end of their working lives. Another interesting finding is the large number of patients with a previous psychiatric history, usually prolonged and with several previous admissions, and the proportion who were actually admitted from other hospitals or institutions. This indicates that these patients are not really new to hospital, if not always psychiatric, care. This leads one to modify the earlier assumption about the availability of social support, since one can only assume that such support was contingent on some form of hospital care being provided.

The comparison of the six months sample with the admission cohort serves to resolve some of the speculation on certain issues such as the large proportion of women retained for six months. This appears to be due both to the excess of women in the admission cohort and their selective retention in greater proportion than men. On the other hand the elderly appear to be selectively retained and over-represented in the six months sample despite their small numbers in the admission cohort. The same is true for the widowed category whose preponderance, and that of the single category, in the six months sample, is in agreement with the findings of

Mezey and Evans (1963). By comparison, only a very small proportion of married patients were retained for six months. In their papers on prediction of length of psychiatric hospitalization, Lindemann et al. (1959) and Sherman et al.(1964) have speculated on the relationship between marital status and personal resources and suggested that being single is an index of social withdrawal. It is interesting to note that when age was controlled the single category emerged as the sole marital status category determining retention for six months. By the same token those in active employment fared better than those out of work, again indicating that greater personal resources play an important role in determining who is discharged. However, it is worth mentioning here that illness can have a detrimental effect on both employment prospects and personal resources in general, thus completing the disadvantage cycle.

Social class appears to have no effect on retention for six months, an interesting finding that has not before been reported.

The finding that first admissions were retained longer than readmissions can be explained by the fact that the former were largely elderly patients with dementia, a group which has proved difficult to discharge. On the other hand, the fact that patients whose last previous admission was to another psychiatric hospital had earlier discharge may have been due to their transfer back to their appropriate hospitals. Another group who remained longer in hospital were those patients who had an admission lasting more than one month during the preceding 12 months. This, together with the fact that patients referred and admitted via the psychiatric outpatient service fared better, suggests that maintaining contact with the extramural psychiatric services is an effective preventive measure against prolonged hospitalization.

As far as admission ward function is concerned, the lengthy

hospitalization of those initially admitted to psychogeriatric and rehabilitation wards may be simply a reflection of the type of patients admitted to such wards. Psychogeriatric wards in the R.E.H. cater for elderly patients with organic illness whose chances of discharge are minimal. Rehabilitation wards, on the other hand, cater mainly for younger patients who have become well known to the hospital staff during their several previous admissions, and who are admitted directly to a rehabilitation ward to enrol in one of the lengthy rehabilitation programmes.

As for admission diagnosis, it appears that proportionately twice as many patients with psychotic disorders were retained for six weeks as those with neurotic disorders. These groups do not include conditions such as dementia, where half the patients were retained, nor mental retardation or alcoholism, where the great majority of patients were discharged. Of the alcoholics, who made up nearly one-fifth of the admission cohort, only 3 patients were retained for six months. This again confirms the findings of Lindemann et al. (1959) and explains the conspicuous absence of cases of alcoholism in the sample studied by Mezey and Evans (1968).

So far the findings appear to support both hypotheses 1a (social disadvantage) and 2a (severity of illness). These and the remaining hypotheses, however, refer mainly to the attainment of long-stay status which is about to be discussed.

The fact that 62% of the six months sample proceeded to become long-stay supports hypothesis 3a concerning early selection. Having remained in hospital continuously for six months thus puts the patient at a considerable risk of becoming long-stay. The proportion of patients who have escaped becoming long-stay is actually inflated by the inclusion

of those patients who had died. When these are excluded it becomes clear that only 27% of the six months sample were actually discharged.

Age was the most important determinant of retention for one year for both sexes. The influence of marital status appears to be a complex one. The single category, who were found to be more at risk of attaining six months stay, appear to do better thereafter and are found to be less at risk of further retention than those who were ever married. One can speculate that the longer the patients who were ever married are removed from their living group situation the less likely they are of returning to it. Perhaps it takes a serious illness or handicap to remove such patients in the first place from their homes and families for six months that their further retention becomes inevitable. This certainly appears to be true of patients who were living with their spouses. A very small proportion of these patients were retained in the first instance for six months, but of those retained the large majority became long-stay.

Employment status had the same effect at both follow-up points. Students and those in active employment on admission were considerably less at risk of staying six months and at 12 months none of them were to be found in hospital.

It thus seems that social disadvantage in terms of being elderly or out of active employment is associated with more likelihood of becoming long-stay. Social class, on the other hand, appears to have no effect, and the effect of marital status is likely to be more complex than was anticipated.

The finding that readmissions were retained longer than first admissions together with the finding that patients who were in current use of the hospital services had been retained longer than new contacts suggests a reluctance on the part of staff to continue to retain patients

in hospital until other forms of extramural care have been tried. This appears to be true except for the hard-to-place elderly patients with organic illness. Younger patients with numerous lengthy admissions or lengthy spells of day patient care, especially during the 12 months preceding admission, appear to be particularly at risk of becoming long-stay. It is interesting to note here that the majority of patients who had spent 6 or more out of the 12 months preceding admission in hospital did in fact attain long-stay status. It is also interesting to note that regular and frequent outpatient attendance during the preceding year significantly lessened the patient's chances of becoming long-stay.

The implications of the finding that patients who had changed wards during their first six months in hospital were more at risk of becoming long-stay are difficult to discern, although it may indicate that continuity of care in the same ward is related to early discharge. One possible explanation is that intractable patients are segregated early to long-term wards. Change of registrar, however, had no effect on outcome. Participation in ward meetings and working from the hospital appear to have a favourable effect; but participation in occupational and industrial therapy, the main activities in rehabilitation programmes, had no effect on outcome. This should not be taken as an evaluation of rehabilitation wards or programmes; but, as mentioned earlier, rehabilitation programmes tend to be lengthy and the patients admitted to rehabilitation wards tend to be at high risk of becoming long-stay anyway. It is satisfying, however, to see that the use of social work and clinical psychology services was associated with less likelihood of attaining long-stay status.

It seems safe to assume that whereas freedom to leave the hospital is a function of the patient's clinical condition and legal status, the

amount of actual contact with the outside world is dependent on the patient's social resources and the availability of relatives and friends. It is thus not surprising that patients with unrestricted freedom to leave the hospital were less at risk of becoming long-stay. Also not surprising is the finding that the more weekends spent at home the better the patient's chances of being discharged.

What is surprising is that patients who were never visited, like those who were visited very frequently, did better than those who were visited relatively infrequently. However, the reason for this seems to be that the patients in the YPU, none of whom became long-stay, were not allowed any visitors. The same reason explains why patients who had no interviews with their doctors, who included all YPU patients*, had the same favourable outcome as those who had regular and frequent interviews with their doctors. Finally, patients who, at six months, stated a definite desire to stay in the hospital did not fare any worse than those who definitely wished to leave. Thus hypothesis 3b, which stated that patients with a definite wish to remain in hospital would be more likely to become long-stay, is rejected.

The relationship between severity of illness and length of stay in hospital proved to be somewhat complex. As stated earlier, proportionately more patients with a psychotic diagnosis were retained for six months than those with a neurotic diagnosis. To a lesser extent the same was true for attaining long-stay status. Hypothesis 2a is thus firmly supported. However, and as mentioned before, this does not totally explain the relationship between severity of illness and length of hospital stay

*As a rule YPU patients were not interviewed individually, although they attended daily group therapy meetings (see Section D of the Results)

because it fails to take into account other non-psychotic, non-neurotic disorders such as dementia, mental retardation or alcoholism. Moreover, an illness diagnosis is based on the presence of a constellation of symptoms with no reference to their severity or how disabling they may be. Identifying individual symptoms and measuring their level of severity, using instruments such as the BPRS, amplifies diagnosis and provides a better index of severity of illness. One would, therefore, expect symptom severity measures to have more discriminatory power than diagnostic categories. However, the BPRS total pathology scores were found to be very low indicating the low level of symptomatology, and especially the absence of florid symptoms, amongst patients retained for six months. This may explain the failure of total pathology scores to discriminate between long and medium-stay patients. Equally, the explanation may be that, after the sixth month, symptom severity has no effect on length of hospital stay. It is interesting to note that the only two symptoms which discriminated between long and medium-stay patients were anxiety and conceptual disorganization, a score of absent on anxiety or present on conceptual disorganization was associated with increased likelihood of attaining long-stay status. Considering that the former is largely a neurotic symptom and the latter largely a psychotic one (although it is also present in dementia), the presence of either symptom may simply be an indication of the type of underlying illness. In that sense the findings seems to corroborate earlier evidence regarding the unfavourable outcome of psychotic, compared to neurotic, illness. Hypothesis 2b, postulating a relationship between high symptom scores and the attainment of long-stay status, is therefore rejected. Hypothesis 2a, on the other hand, receives qualified support since it has to be re-stated so as to include the diagnosis of dementia. The revised

version should be that a psychotic or organic illness diagnosis will be associated with more likelihood of becoming long-stay than that of neurotic illness or character disorder.

The Ward Behaviour Scale scores rate the patients' behaviour as observed by the nursing staff. The low S.E. scores confirm the rarity of signs of florid symptomatology observed in the six months' patients. This time, however, the scores discriminated significantly between medium and long-stay patients, higher scores being associated with an increased likelihood of becoming long-stay. This discriminatory power of the S.E. score may be due to two reasons. Firstly, the Ward Behaviour Scale Scores may be more accurate because they are based on close observation of the patient's behaviour over a seven-day period by nurses who knew the patient very well whereas the BPRS is scored on the basis of a 20-minute interview of the patient by a total stranger. Secondly, whereas the former are based on observation, the latter are dependent on the patient's verbal responses which might not always be forthcoming. In fact the occasional lack of coherent statements by the patients was the main reason for the relatively large number of void scores on the BPRS.

The S.W. Scores are more evenly spread suggesting that social withdrawal is more common amongst the six months' patients than socially embarrassing behaviour. However, it failed to discriminate between medium and long-stay patients although there was a consistent trend of increased probability of becoming long-stay with increasing scores. Hypothesis 1b is thus rejected.

These findings suggest that the main characteristics of patients retained for six months are that they are socially withdrawn and have few symptoms. They also rarely exhibit socially embarrassing behaviour; but when they do it indicates an increased likelihood of becoming long-

stay.

Because of the low level of symptomatology found in the six months sample the use of stringent criteria (Feighner et al, 1972) for the R.P. diagnosis resulted in one-quarter of the patients being allocated the undiagnosed psychiatric illness category. The rank ordering of diagnostic categories was broadly similar to that of the diagnoses made by hospital doctors, although the numbers were understandably smaller. However, a rank correlation could not be obtained because of the discrapancy in the number of diagnostic categories. The R.P. diagnosis, made consistently by the author, was no better a discriminator between long and medium-stay patients than the hospital diagnosis which was made independently for each patient by the doctor-in-charge.

The doctors' ratings of employability and availability of accommodation are another reflection of the patients' resources and psychopathology. It was thus not surprising to find a strong positive association between them and outcome, the more disadvantaged patients being more likely to become long-stay. The same was true for the assessment of further care requirement, which was based on the patients' clinical condition. The accuracy with which the consultants predicted who was to become long-stay was probably due to the fact that it was based on a global assessment of the patient's personal resources, clinical condition and community resources. However, it may be argued that the consultant's expectations themselves might have influenced outcome. This clearly can only be resolved by studying the relationship between doctors' attitudes and expectations and the attainment of long-stay status.

The findings concerning the patients' condition at 12 months suggest that the discharged patients fared only marginally better than those retained. Although out of hospital they maintained the same amount of

contact with the psychiatrists and clinical psychologists as did the long-stay patients. They appear to be maintained out of hospital through more social work involvement, more individual psychotherapy and more use of long-acting phenothiazines and lithium. Their BPRS and S.E. scores were the same as those of the long-stay patients; but their S.W. scores were significantly lower. The latter finding is interesting in that it suggests that the two Ward Behaviour Scale Scores operate as discriminators between long and medium-stay patients at 2 different points, the S.E. score at six months and the S.W. score at 12 months. It also suggests a relationship between retention in hospital for 12 months and the accentuation of social withdrawal.

The total overall functioning score shows the discharged patients to be functioning significantly better than those retained. However, when the individual items making up the score are examined separately, a somewhat different picture emerges showing the discharged patients to be only marginally better off. The level of activity of the two groups of patients is similar. Understandably, more of the long-stay patients are rated as requiring some form of care or supervision. As for occupational and social functioning, more than half the discharged patients were considered to be functioning at below optimal levels, and a similar proportion were isolated from their families.

All this suggests that the differences between the medium and long-stay patients are, at best, marginal, and that the former require a great deal of support to be maintained successfully in the community. It is also worth remembering that these patients have spent six continuous months in hospital. According to the earlier findings, if these patients were readmitted during the year, the chances of their becoming long-stay are very high indeed.

Considering the fate of the three groups of patients outlined in Section D of the results, there seems to be a good case for studying patients with organic illness separately. Mann and Sproule (1971) have excluded them from their sample arguing that they have specific problems which are not shared by the remaining psychiatric patients. The present study certainly supports this view. In addition to being a homogeneous group, patients with organic illness also appear to have similar outcome, namely that if they do not die in hospital their vast majority would become long-stay. The large proportion of these patients retained for 6 and 12 months is in line with the trend reported by Affleck et al. (1968). These patients appear to be accumulated mainly at the expense of schizophrenic patients whose proportion amongst the long-stay patients was much smaller than previously reported (Hailey, 1971; Magnus, 1967; Mezey and Evans, 1968).

The fact that patients with dementia were predominantly women confirms the findings of previous studies (Affleck et al., 1968; Hailey, 1971; Magnus, 1967; Mezey and Evans, 1968). These patients made the main contribution to the widowed category in the six months sample. It is interesting to note that their social class distribution shows an under-representation of the lower social classes. This leads one to wonder about the fate of working class patients with dementia; whether, for instance, this reflects a more tolerant attitude of working class families towards their dementing members. The fact that the majority become long-stay although they were largely first admissions suggests that they were brought to hospital by their relatives for permanent care rather than treatment. The frequent visits by their relatives suggests that these demented patients were not so much abandoned by the relatives as simply removed to the security of the hospital where they could be looked after by

professionals. The hospital thus functioned as a nursing home, relieving the relatives from the burden of looking after these patients. Whether this should be the role of the mental hospital remains an open question. Part of the answer must lie in investigating firstly, how working class families cope with their demented members; secondly; whether these patients require the facilities of psychiatric hospitals; and thirdly, alternatives to psychiatric hospitalization.

The BPRS and Ward Behaviour Scale scores indicate a low level of symptomatology and marked social withdrawal. The main disability of these patients appears to be their inability to look after themselves. The skills required for nursing such patients must surely be considerably less than what a highly specialised organization like the psychiatric hospital offers. The fact that the specialised services were being underused was clear from these patients' lack of contact with doctors and other service professionals. The few 'interviews' they had with their doctors were largely on account of physical complaints. It seems hard not to conclude that these patients do not really require to be in a psychiatric hospital and that the search for alternatives to hospitalization should be encouraged.

There is no evidence from previous studies that adolescents contribute to the accumulation of long-stay patients and on the basis of the present investigation it seems highly unlikely that any of these patients would have attained long-stay status. The highly specialized service provided for disturbed adolescents by the YPU is thus of marginal consequence to the issue being discussed.

The most relevant category is, no doubt, that of the general psychiatric patients. Here there was not the marked excess of women that characterised patients with organic illness. The fact that they were largely single, unemployed and of predominantly lower social class distribution suggests

both social and economic disadvantage. A large number of these patients were known to the R.E.H. staff on account of their numerous previous admissions and a few were currently admitted on a compulsory order to acute admission wards. This, and the fact that the commonest diagnoses were those of schizophrenia and affective illness, suggests that severity of illness played a more important role in retaining these patients for six months than it did with demented patients. The variety of drugs, and ECT, administered to these patients supports this contention, as do the regular and frequent interviews these patients had with their doctors. However, their scores on both the BPRS and Ward Behaviour Scale were generally low. Social withdrawal, apathy and the absence of florid symptoms characterized these patients. One can only assume that, with regular medication for six months, their symptoms had abated.

Less than half of these patients became long-stay, suggesting that early identification of prospective long-stay patients in this group may be worthwhile. Age and employment status discriminated between medium and long-stay patients indicating perhaps that prolonged economic disadvantage is more important than social disadvantage. It is worth remembering that the majority of these patients were living with a first degree relative prior to admission and were visited regularly by their relatives. However, it was those who were rated by their doctors as being unemployable and difficult to accommodate in the community who became long-stay. Interestingly, severity of illness, either in terms of diagnosis or symptom level, failed to discriminate between medium and long-stay patients. It is also interesting and satisfying to see that rehabilitation efforts, as reflected in social work involvement, work from the hospital and weekend passes obtained, were associated with discharge.

Most of this evidence points to the paramount importance of employment status as a discriminator between medium and long-stay patients. This may be the key area in the successful rehabilitation of these patients, and it looks as if this, coupled with intensive social work, might well prevent many of these patients becoming long-stay.

Lastly, little needs to be said about the predictive scales apart from the fact that, as a preliminary exercise in this area, they were reasonably satisfactory. The cut-off points were chosen in such a way as to minimise misclassification. False positives were not considered to be as serious a drawback as false negatives. Thus although Scale I produced a large number of false positives, this was considered to be acceptable since the 500 patients at risk, i.e. who scored, included the large majority of those who actually stayed six months in hospital. It is worth remembering that these false positives are patients with similar characteristics to those who were retained for six months. To include some of them in, for instance, a rehabilitation programme is thus not altogether inappropriate. The other option of manipulating the cut-off point to minimize the false positives would have resulted in the more serious handicap of increasing the number of false negatives with the result the hypothetical rehabilitation programme would have included few of the high risk patients.

Obviously, the ideal predictive scale would have classified the majority of patients correctly. This is far from being the case here and, as mentioned in Section E of the Results, it may be due to the fact that the method used was not sophisticated enough. However, since using this simple method resulted in reasonably satisfactory scales, the use of more sophisticated statistical techniques may result in far superior scales. The area of prediction of outcome, previously neglected by

British workers, looks promising indeed.

CONCLUSIONS

1. The Hypotheses:

Each of the three hypotheses was partially borne out. The first part of the social disadvantage hypothesis stated that disadvantage in terms of age, marital status, employment status and living group would be associated with more likelihood of both retention for six months and further retention for 12 months. This was found to be true for both age and employment status at both follow-up intervals. Of the marital status categories, the single and widowed were associated with an increased likelihood of being retained for six months; but, paradoxically, being single was associated with less likelihood of further retention for 12 months. The living group effect followed similar lines. Living with spouse was associated with less likelihood of retention for six months and living with another first degree relative with less likelihood of retention for 12 months. The first part of the hypothesis thus received qualified support. The second part, stating that social withdrawal would be associated with the attainment of long-stay status, was rejected.

The first part of the severity of illness hypothesis stated that a psychotic illness diagnosis would be associated with more likelihood of becoming long-stay than that of neurotic illness or character disorder. This was definitely supported; but it was felt that the important category of organic illness which, even more than functional psychotic illness, was associated with a high likelihood of becoming long-stay, should have been added. The second part of the hypothesis, stating that higher scores on symptom severity measures would be associated with more likelihood of becoming long-stay, was rejected.

The first part of the early selection hypothesis stated that the

majority of patients retained for six months would become long-stay. This was supported by the findings. The second part postulated that patients who state a definite wish to remain in hospital would be more likely than other patients to become long-stay. This was rejected.

2. Service Implications:

The study identifies certain characteristics which put the patient at risk of prolonged hospitalization. Of the admission characteristics being unemployed was found to be the most important factor in determining continued retention at any stage. The elderly and the widowed appear to be particularly vulnerable to prolonged hospitalization, as do those patients, particularly those with functional illness, who have a history of multiple admissions. Single patients are more at risk of retention for six months than those ever married, but thereafter their chances of further retention are less. However, it must be remembered that retention for six months by itself makes the patient vulnerable to further retention. The young patient who is single, unemployed and of lower social class is particularly vulnerable. Patients with dementia or psychotic illness are also particularly at risk. Illness severity, as assessed at six months, is not a good indicator, but socially embarrassing behaviour identifies potential long-stay patients. These characteristics are easily identifiable and should be easy to look for. However, for a shorthand approach to early identification, the predictive scales may be found useful and easy to administer.

The study also emphasizes the importance of social work, ward activities and weekend passes to the early discharge of medium-stay patients. More use of the social work services, encouraging occupational therapy and other activities on the wards and encouraging the patients to spend as many

weekends as possible outside the hospital may prove more rewarding than already realised. Paradoxically, more active, work-oriented occupational therapy does not appear to be related to discharge. It may be that the emphasis on work performance and obtaining employment, in the present economic climate, acts more as a handicap to these already handicapped patients. The emphasis should be on early discharge and provision of sheltered employment in the community rather than on prolonged rehabilitation in the hospital with uncertain results.

For patients who are successfully discharged, regular outpatient attendance and the use of specialized services such as social work appear to play an important role in maintaining the patient in the community, as does the use of long-acting phenothiazines and lithium.

3. Implications for Further Research

The appropriateness of psychiatric hospital care for patients with dementia has been questioned. The findings indicate that of all the professional services available in the hospital only the nursing service was used to any extent by these patients. Further research is required to find out whether there are any differences between patients with organic illness admitted to psychiatric hospitals and those admitted to geriatric hospitals and nursing homes. It would also be interesting to carry out an epidemiological survey of dementia in the community and to find out how the various social classes cope with dementia; whether, for instance, working class families are simply more tolerant of their demented members or whether it is less of a burden for them than for the more affluent families. The answers to these questions are very relevant to the planning of services for these patients.

There are three other interesting areas for research. One is the

investigation of doctors' attitudes and expectations and whether, and how, they influence the attainment of long-stay status. Consultants proved to be very good predictors of their patients outcome. Is it clinical acumen or self-fulfilling prophecy?

The second concerns the development of social withdrawal. The S.W. scores of long-stay patients at 12 months were higher than their scores six months earlier. Also, whereas at six months social withdrawal failed to predict length of hospital stay, at 12 months it discriminated significantly between medium and long-stay patients. Is the development of social withdrawal a product of prolonged hospitalization or is it merely accentuated by it? Which aspects of hospital life, if any, are responsible for this phenomenon? Identifying possible factors which contribute to its development or accentuation inside the hospital will be of considerable assistance in the prevention of institutionalism.

Finally, discharging patients after six months in hospital no doubt helps to ease the N.H.S. load; but, on the basis of this study, it appears to do very little for the patients themselves. It will be interesting to see whether this can be confirmed by other workers. If this turns out to be true, then it will certainly heighten the present concern over our existing alternative community care provisions.

REFERENCES

Affleck, J.W., Forrest, A.D. and Zealley, A. K. (1968). Long-term psychiatric patients discharges and replacements. Health Bulletin, 26, No. 4, 1-5.

Anker, J.M. (1961). Chronicity of neuropsychiatric hospitalization: a predictive scale. J. Consult. Psychol., 25, 425-432.

Baldwin, J.A. (1963). A critique of the use of patient-movement studies in the planning of mental health services. Scot. med. J., 8, 227-233.

Baldwin, J.A. and Hall, D.J. (1967). Estimation of the outcome of a standing mental hospital population. Br. J. prev. soc. Med., 21, 56-65.

Barton, R. (1959). Institutional Neurosis (Bristol: Wright).

Bettleheim, B. and Sylvester, E. (1948). A therapeutic milieu. Am. J. Orthopsychiat., 18, 191-206.

Brill, H. and Patton, R.E. (1957). Analysis of 1955-1956 population fall in New York State mental hospitals in first year of large scale use of tranquillizing drugs. Am. J. Psychiat., 114, 509-517.

Cohen, J. (1968). Weighted kappa: nominal scale agreement with provision for scaled disagreement or partial credit. Psychol. Bull., 70, 213-220.

Cross, K.W. and Yates, J. (1961). Follow-up study of admissions to mental hospitals: some results relevant to future planning. Lancet, 1, 989-991.

Department of Health and Social Security (1972). Psychiatric Hospitals and Units in England and Wales. Inpatient statistics from the Mental Health Enquiry for the year 1970. Statistical and Research Report Series No. 4 (London: HMSO).

Early, D.F. and Magnus, R.V. (1966). Population trends in a mental hospital. Br. J. psychiat., 112, 595-601.

Feighner, J.P., Robins, E., Guze, S.B., Woodruff, R.A., Winokur, G. and Munoz, R. (1972). Diagnostic criteria for use in psychiatric research. Arch. Gen. Psychiat., 26, 57-63.

Fulton, J.R. and Lorei, T.W. (1967). Predicting length of psychiatric hospitalization from history records. J. clin. Psychol., 23, 218-221.

Geidt, F.H. and Schlosser, J.R. (1955). Movement of patients through a neuropsychiatric hospital. Unpublished manuscript, Medical Library, VA Hospital, Perry Point, Maryland. (Cited in Lindemann et al, 1959).

General Register Office (1960). Annual Abstract of Statistics (London: HMSO). (Cited in Norton, 1961).

General Register Office (1968). A Glossary of Mental Disorders. Studies on Medical and Population Subjects No. 22. (London: HMSO).

Hailey, A.M. (1971). Long-stay psychiatric in-patients: a study based on the Camberwell Register. Psychol. Med., 1, 128-142.

Hailey, A.M. (1973). The chronic mental hospital population: a six year follow-up study. Br. J. prev. soc. Med., 27, 255-260.

Hailey, A.M. (1974). The new chronic psychiatric population. Br. J. prev. soc. Med., 28, 180-186.

Hassal, C., Gath, D. and Cross, K.W. (1972). Psychiatric day-care in Birmingham. Brit. J. prev. soc. Med., 26, 112. (Cited in Hailey, 1974).

Johnston, R. and McNeal, B.F. (1964). Combined MMPI and demographic data in predicting length of neuropsychiatric hospital stay. J. consult. Psychol., 28, 64-70.

Jones, K. and Sidebotham, R. (1962). Mental Hospitals at Work (London: Routlege and Kegan Paul).

Kramer, M. and Pollack, E.S. (1958). Problems in the interpretation of trends in the population movement of the public mental hospitals. Am. J. publ. Health, 48, 1003-1019.

Lindemann, J.E., Fairweather, G.W., Stone, C.B. and Smith, R.S. (1959). The use of demographic characteristics in predicting length of neuropsychiatric hospital stay. J. consult. Psychol., 23, 85-89.

Lindsay, J.S.B. (1962). Trends in the mental hospital population and their effect on future planning. Lancet, i, 1354-1355.

Magnus, R.V. (1967). 'The new chronics'. Br. J. psychiat., 113, 555-556.

Mann, S.A. and Sproule, J. (1972). Reasons for a six-month stay, in Wing, J.K. and Hailey, A.M. (eds.), Evaluating a Community Psychiatric Service (London: Oxford University Press for the Nuffield Provincial Hospitals Trust).

Martin, D.V. (1955). Institutionalization. Lancet, ii, 1188.

Mezey, A.G. and Evans, E. (1968). Towards chronic mental illness. Br. J. psychiat., 114, 1399-1405.

Myerson, A. (1939). Theory and principles of the 'total push' method in the treatment of chronic schizophrenia. Am. J. Psychiat., 95, 1197-1204.

Norton, A. (1961). Mental hospital ins and outs: a survey of patients admitted to a mental hospital in the past thirty years. Br. med. J., 1, 528-536.

Overall, J.E. and Gorham, R.D. (1962). The Brief Psychiatric Rating Scale. Psychol. Rep., 10, 799-812.

Overall, J.E., Hollister, L.E., and Dalal, S.N. (1967). Psychiatric drug research: sample size requirements for one vs. two raters. Arch. Gen. Psychiat., 16, 152-161.

Registrar General's Office (Edinburgh). Personal communication.

Sherman, L.J., Moseley, E.C., Ging, R., Arbor, A. and Bookbinder, L.J. (1964). Prognosis in schizophrenia. Arch. Gen. Psychiat., 10, 123-130.

Strauss, J.S. and Carpenter, W.T. (1972). The prediction of outcome in schizophrenia, I. Characteristics of outcome. Arch. Gen. Psychiat., 27, 739-746.

Tooth, G.C. and Brooke, E.M. (1961). Trends in the mental hospital population and their effect on future planning. Lancet, i, 710-713.

Wing, J.K. (1961). A simple and reliable subclassification of chronic schizophrenia. J. ment. Sci., 107, 862-875.

Wing, J.K. and Brown, G.W. (1970). Institutionalism and Schizophrenia. A comparative study of three mental hospitals 1960-1968 (London: Cambridge University Press).

Zubin, J., Salzinger, S., Burdock, E.I. et al. (1961). A biometric approach to prognosis in schizophrenia, in Hoch, P. and Zubin, J. (eds.), Comparative Epidemiology of the Mental Disorders (New York: Grune and Stratton Inc.).

APPENDICES

APPENDIX A

INSTRUMENTS

The Brief Psychiatric Rating Scale

The Ward Behaviour Scale

The Criteria for the Research Project Diagnosis

The Doctor's Rating Scale

The letter concerning the Consultant's Prediction

THE BRIEF PSYCHIATRIC RATING SCALE

Name: _____ No. _____ Date: _____

1. SOMATIC CONCERN - Degree of concern over present bodily health. Rate the degree to which physical health is perceived as a problem by the patient, whether complaints have realistic basis or not.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

2. ANXIETY - Worry, fear, or over concern for present or future. Rate solely on the basis of verbal report of patient's own subjective experiences. Do not infer anxiety from physical signs or from neurotic defense mechanisms.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

3. EMOTIONAL WITHDRAWAL - Deficiency in relating to the Interviewer and the interview situation. Rate only degree to which the patient gives the impression of failing to be in emotional contact with other people in the interview situation.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

4. CONCEPTUAL DISORGANISATION - Degree to which the thought processes are confused, disconnected or disorganised. Rate on the basis of integration of the verbal products of the patient; do not rate on the basis of the patient's subjective impression of his own level of functioning.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

5. GUILT FEELINGS - Over concern or remorse for past behaviour. Rate on the basis of the patient's subjective experiences of guilt as evidenced by verbal report with appropriate affect; do not infer guilt feelings from depression, anxiety, or neurotic defenses.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

6. TENSION - Physical and motor manifestations of tension, "nervousness", and heightened activation level. Tension should be rated solely on the basis of physical signs and motor behaviour and not on the basis of subjective experiences of tension reported by the patient.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

7. MANNERISMS AND POSTURING - Unusual and unnatural motor behaviour, the type of motor behaviour which causes certain mental patients to stand out in a crowd of normal people. Rate only abnormality of movements; do not rate simple heightened motor activity here.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

8. GRANDIOSITY - Exaggerated self-opinion, conviction of unusual ability or powers. Rate only on the basis of patient's statements about himself or self-in-relation-to-others, not on the basis of his demeanor in the interview situation.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

9. DEPRESSIVE MOOD - Despondency in mood, sadness. Rate only degree of despondency; do not rate on the basis of inferences concerning depression based upon general retardation and somatic complaints.

   Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

10. HOSTILITY - Animosity, contempt, belligerence, disdain for other people outside the interview situation. Rate solely on the basis of the verbal report of feelings and actions of the patient toward others; do not infer hostility from neurotic defenses, anxiety nor somatic complaints. (Rate attitude toward interviewer under "uncooperativeness")

    Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

11. SUSPICIOUSNESS - Belief (delusional or otherwise) that others have now, or have had in the past, malicious or discriminatory intent toward the patient. On the basis of verbal report, rate only those suspicions which are currently held whether they concern past or present circumstances.

    Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

12. HALLUCINATORY BEHAVIOUR - Perceptions without normal external stimulus correspondence. Rate only those experiences which are reported to have occurred within the last week and which are described as distinctly different from the thought and imagery processes of normal people.

    Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

13. MOTOR RETARDATION - Reduction in energy evidenced in slowed movements and speech, reduced body tone, decreased number of movements, rate on the basis of observed behaviour of the patient only; do not rate on basis of patient's subjective impression of own energy level.

    Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

14. UNCOOPERATIVENESS - Evidence of resistance, unfriendliness, resentment, and lack of readiness to cooperate with the interviewer. Rate only on the basis of the patient's attitude and responses to the interviewer and the interview situation; do not rate on basis of reported resentment or uncooperativeness outside the interview situation.

    Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

15. UNUSUAL THOUGHT CONTENT - Unusual, odd, strange, or bizarre thought content. Rate here the degree of unusualness, not the degree of disorganisation of thought processes.

    Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

16. BLUNTED AFFECT - Reduced emotional tone, apparent lack of normal feeling or involvement.

    Not present/Very mild/Mild/Moderate/Mod.severe/Severe/Ex.severe

THE WARD BEHAVIOUR SCALES

Please consider this patient's behaviour during the past week only, even if it was not typical of his or her usual condition.

There are three items in each section. If one of the items describes behaviour which has occurred in the past week, please place a tick (√) against it in the box on the right. There should be only one tick for each section. Please read all three items before making your choice.

ITEM 1: Slowness of movement

(2) Usually extremely slow to move, e.g. took very much longer over a meal, or dressing, or walking across the ward, than other patients ☐

(1) Showed periods of extreme slowness of movement as in (2), but at other times was not slow to move ☐

(0) Speed of movement normal ☐

ITEM 2: Under-activity

(2) Stood or sat in one place all the time, with little movement. Even with encouragement was very difficult to get moving ☐

(1) Showed periods of extreme under-activity as in (2), but at other times was not over-active ☐

(0) Showed no marked under-activity ☐

ITEM 3: Over-activity

(2) Usually extremely over-active or restless, e.g. paced rapidly up and down, became excited, talked or sang loudly or wildly, etc. ☐

(1) Showed periods of extreme over-activity as in (2), but at other times was not over-active ☐

(0) Showed no marked over-activity ☐

ITEM 4: Conversation

(2) Was mute or almost mute ☐

(1) Said a few words, e.g. in reply to questions but was usually silent ☐

(0) Ordinary conversation ☐

ITEM 5: Social withdrawal

(2) Never mixed socially with anyone, even when encouraged to do so
(1) Was socially withdrawn and solitary, but would mix a little with others if encouraged to do so
(0) Normal social mixing

ITEM 6: Leisure interests

(2) Showed no interest in anything. Did not watch television, read newspapers, play games, etc., even when encouraged to do so
(1) Showed very little interest, but could be persuaded to watch television, read papers, join in games, etc. for a while
(0) Showed normal spontaneous interest

ITEM 7: Laughing and talking to self

(2) Frequent episodes (once a day or more often) of laughing or talking out loud - not just constant smiling
(1) Occasional episodes of laughing or talking out loud, but these did not occur every day
(0) No such episodes noted

ITEM 8: Posturing and mannerisms

(2) Adopted odd or uncomfortable postures, or made bizarre movements, every day
(1) Behaved as in (2), but less often than every day
(0) No such behaviour seen

ITEM 9: Threatening or violent behaviour

(2) Struck some person, or destroyed some article (e.g. clothing, window, crockery, etc.)
(1) Was threatening in manner, or verbally abusive, but did not strike anyone
(0) No such behaviour seen

ITEM 10: Personal hygiene

(2) Was incontinent on at least one occasion during the week
(1) Needed raising at night, or escorting to lavatory during the day, in case of incontinence, but was not actually incontinent when this was done
(0) Needed no escorting or raising and was not incontinent

ITEM 11: Personal appearance

(2) Needed to be shaved (if male), washed or dressed fully at least once during the week
(1) Could shave, dress and wash, but needed supervision with tie, buttons, etc., or would be slovenly in appearance
(0) Needed no supervision of this kind. Maintained reasonably neat appearance without prompting

ITEM 12: Behaviour at meal-times

(2) Needed spoon-feeding at least once during the week

(1) Did not require spoon-feeding but had to wear bib, or needed supervision because of faulty table manners

(0) Normal behaviour at meal times

CRITERIA FOR THE RESEARCH PROJECT DIAGNOSIS

01. PRIMARY AFFECTIVE DISORDERS: Depression

For a diagnosis of depression, A through C are required.

A. Dysphoric mood characterised by symptoms such as the following: depressed, sad, blue, despondent, hopeless, "down in the dumps", irritable, fearful, worried, or discouraged.

B. At least five of the following criteria are required for "definite" depression; four are required for "probable" depression.

(1) Poor appetite or weight loss (positive if 2 lb a week or 10 lb or more a year when not dieting). (2) Sleep difficulty (include insomnia or hypersomnia). (3) Loss of energy, e.g. fatigability, tiredness. (4) Agitation or retardation. (5) Loss of interest in usual activities, or decrease in sexual drive. (6) Feelings of self-reproach or guilt (either may be delusional).

(7) Complaints of or actually diminished ability to think or concentrate, such as slow thinking or mixed-up thoughts.

(8) Recurrent thought of death or suicide, including thoughts of wishing to be dead.

C. A psychiatric illness lasting at least one month with no pre-existing psychiatric conditions such as schizophrenia, anxiety neurosis, phobic neurosis, obsessive compulsive neurosis, hysteria, alcoholism, drug dependency, antisocial personality, homosexuality and other sexual deviations, mental retardation, or organic brain syndrome. (Patients with life-threatening or incapacitating medical illness preceding and paralleling the depression do not receive the diagnosis of primary depression.)

02. PRIMARY AFFECTIVE DISORDERS: Mania

For a diagnosis of mania, A through C are required.

A. Euphoria or irritability.

B. At least three of the following symptom categories must also be present. (1) Hyperactivity (includes motor, social, and sexual activity). (2) Push of speech (pressure to keep talking). (3) Flight of ideas (racing thoughts). (4) Grandiosity (may be delusional). (5) Decreased sleep. (6) Distractibility.

C. A psychiatric illness lasting at least two weeks with no pre-existing psychiatric conditions such as schizophrenia, anxiety neurosis, phobic neurosis, obsessive compulsive neurosis, hysteria, alcoholism, drug dependency, antisocial personality, homosexuality and other sexual deviations, mental retardation, or organic brain syndrome.

There are patients who fulfil the above criteria, but also have a massive or peculiar alteration of perception and thinking as a major manifestation of their illness. These patients are considered by some to have a "schizophreniform" or "atypical" psychosis, i.e. an illness of acute onset (less than six months), in a patient with good premorbid psychosocial adjustment, with prominent delusions and hallucinations in addition to the affective symptoms. Clinical studies of this disorder indicate that from 60% to 90% of cases have a remitting illness and return to premorbid levels of psychosocial adjustment with a longitudinal course consistent with primary affective disorder. The remaining 10% to 40% have a chronic illness consistent with schizophrenia. These patients are, therefore, classified as having an undiagnosed psychiatric disorder and are not included in either primary affective disorder or schizophrenia.

03. SECONDARY AFFECTIVE DISORDERS

Secondary depression, "definite" or "probable", is defined in the same way as primary depression, except that it occurs with one of the following: (1) A pre-existing, non-affective psychiatric illness which may or may not still be present. (2) A life-threatening or incapacitating medical illness which precedes and parallels the symptoms of depression.

04. SCHIZOPHRENIA

For a diagnosis of schizophrenia A through C are required.

A. Both of the following are necessary: (1) A chronic illness with at least six months of symptoms prior to the index evaluation without return to the premorbid level of psychosocial adjustment. (2) Absence of a period of depressive organic symptoms sufficient to qualify for affective disorder or probable affective disorder.

B. The patient must have at least one of the following: (1) Delusions or hallucinations without significant perplexity or disorientation associated with them. (2) Verbal production that makes communication difficult because of a lack of logical or understandable organisation. (In the presence of muteness the diagnostic decision must be deferred.)

(We recognise that many patients with schizophrenia have a characteristic blunted or inappropriate affect; however, when it occurs in mild form, interrater agreement is difficult to achieve. We believe that, on the basis of presently available information, blunted affect occurs rarely or not at all in the absence of B-1 or B-2).

C. At least three of the following manifestations must be present for a diagnosis of "definite" schizophrenia, and two for a diagnosis

of "probable" schizophrenia. (1) Single. (2) Poor premorbid social adjustment or work history. (3) Family history of schizophrenia. (4) Absence of alcoholism or drug abuse within one year of onset of psychosis. (5) Onset of illness prior to age 40.

05. ANXIETY NEUROSIS

For a diagnosis of anxiety neurosis, A through D are required.

A. The following manifestations must be present: (1) Age of onset prior to 40. (2) Chronic nervousness with recurrent anxiety attacks manifested by apprehension, fearfulness, or sense of impending doom, with at least four of the following symptoms present during the majority of attacks: (a) dyspnoea, (b) palpitations, (c) chest pain or discomfort, (d) choking or smothering sensation, (e) dizziness and (f) paresthesias.

B. The anxiety attacks are essential to the diagnosis and must occur at times other than marked physical exertion or life-threatening situations, and in the absence of medical illness that could account for symptoms of anxiety. There must have been at least six anxiety attacks, each separated by at least a week from the others.

C. In the presence of other psychiatric illness(es) this diagnosis is made only if the criteria described in A and B antedate the onset of the other psychiatric illness by at least two years.

D. The diagnosis of probable anxiety neurosis is made when at least two symptoms listed in A-2 are present, and the other criteria are fulfilled.

06. OBSESSIVE COMPULSIVE NEUROSIS

For a diagnosis of obsessive compulsive neurosis, both A and B

are required.

A. Manifestations 1 and 2 are required. (1) Obsessions or compulsions are the dominant symptoms. They are defined as recurrent or persistent ideas, thoughts, images, feelings, impulses, or movements, which must be accompanied by a sense of subjective compulsion and a desire to resist the event, the event being recognised by the individual as foreign to his personality or nature, i.e. "ego-alien". (2) Age of onset prior to 40.

B. Patients with primary or probable primary affective disorder, or with schizophrenia or probable schizophrenia, who manifest obsessive-compulsive features, do not receive the additional diagnosis of obsessive compulsive neurosis.

07. PHOBIC NEUROSIS

For a diagnosis of phobic neurosis, both A and B are required.

A. Manifestations 1 and 2 are required. (1) Phobias are the dominant symptoms. They are defined as persistent and recurring fears which the patient tries to resist or avoid and at the same time considers unreasonable. (2) Age of onset prior to 40.

B. Symptoms of anxiety, tension, nervousness, and depression may accompany the phobias; however, patients with another definable psychiatric illness should not receive the additional diagnosis of phobic neurosis.

08. HYSTERIA

For a diagnosis of hysteria, both A and B are required.

A. A chronic or recurrent illness beginning before age 30, presenting with a dramatic, vague, or complicated medical history.

B. The patient must report at least 25 medically unexplained symptoms

for a "definite" diagnosis and 20 to 24 symptoms for a "probable" diagnosis in at least nine of the following groups. GROUP 1 - Headaches, sickly majority of life; GROUP 2 - Blindness, paralysis, anesthesia, aphonia, fits or convulsions, unconsciousness, amnesia, deafness, hallucinations, urinary retention, trouble walking, other unexplained "neurological" symptoms; GROUP 3 - Fatigue, lump in throat, fainting spells, visual blurring, weakness, dysuria; GROUP 4 - Breathing difficulty, palpitation, anxiety attacks, chest pain, dizziness; GROUP 5 - Anorexia, weight loss, marked fluctuations in weight, nausea, abdominal bloating, food intolerance, diarrhoea, constipation; GROUP 6 - Abdominal pain, vomiting; GROUP 7 - Dysmenorrhea, menstrual irregularity, amenorrhea, excessive bleeding; GROUP 8 - Sexual indifference, frigidity, dyspareunia, other sexual difficulties, vomiting all nine months of pregnancy at least once; or hospitalisation for hyperemesis gradivarum ; GROUP 9 - Back pain, joint pain, extremity pain, burning pains of the sexual organs, mouth, or rectum, other bodily pains; GROUP 10 - Nervousness, fears, depressed feelings, need to quit working, or inability to carry on regular duties because of feeling sick, crying easily, feeling life was hopeless, thinking a good deal about dying, wanting to die, thinking about suicide, suicide attempts.

09. ANTISOCIAL PERSONALITY DISORDER

A chronic or recurrent disorder with the appearance of at least one of the following manifestations before age 15. A minimum of five manifestations are required for a "definite" diagnosis, and four are required for a "probable" diagnosis.

A. School problems as manifested by any of the following: truancy (positive if more than once per year except for the last year in school), suspension, expulsion, or fighting that leads to trouble with teachers or principals.

B. Running away from home overnight while living in parental home.

C. Troubles with the police as manifested by any of the following: two or more arrests for nontraffic offenses, four or more arrests (including tickets only) for moving traffic offenses, or at least one felony conviction.

D. Poor work history as manifested by being fired, quitting without another job to go to, or frequent job change not accounted for by normal seasonal or economic fluctuations.

E. Marital difficulties manifested by any of the following: deserting family, two or more divorces, frequent separations due to marital discord, recurrent infidelity, recurrent physical attacks upon spouse, or being suspected of battering a child.

F. Repeated outbursts of rage or fighting not on the school premises: if prior to age 18 this must occur at least twice and lead to difficulty with adults; after age 18 this must occur at least twice, or if a weapon (e.g. club, knife, or gun) is used, only once is enough to score this category positive.

G. Sexual problems as manifested by any of the following: prostitution (includes both heterosexual and homosexual activity), pimping, more than one episode of venereal disease, or flagrant promiscuity.

H. Vagrancy or wanderlust, e.g. at least several months of wandering from place to place with no prearranged plans.

I. Persistent and repeated lying or using an alias.

10. ALCOHOLISM

A "definite" diagnosis is made when symptoms occur in at least three of the four following groups. A "probable" diagnosis is made when symptoms occur in only two groups.

A. Group One: (1) Any manifestation of alcohol withdrawal such as tremulousness, convulsions, hallucinations, or delirium, (2) History of medical complications, e.g. cirrhosis, gastritis, pancreatitis, myopathy, polyneuropathy, Wernicke-Korsakoff's syndrome. (3) Alcoholic blackouts, i.e. amnesic episodes during heavy drinking not accounted for by head trauma. (4) Alcoholic binges or benders (48 hours or more of drinking associated with default of usual obligations: must have occurred more than once to be scored as positive).

B. Group Two: (1) Patient has not been able to stop drinking when he wanted to do so. (2) Patient has tried to control drinking by allowing himself to drink only under certain circumstances, such as only after 5:00 p.m., only on weekends, or only with other people. (3) Drinking before breakfast. (4) Drinking nonbeverage forms of alcohol, e.g. hair oil, mouthwash, Sterno, etc.

C. Group Three: (1) Arrests for drinking. (2) Traffic difficulties associated with drinking. (3) Trouble at work because of drinking. (4) Fighting associated with drinking.

D. Group Four: (1) Patient thinks he drinks too much. (2) Family objects to his drinking. (3) Loss of friends because of drinking. (4) Other people object to his drinking. (5) Feels guilty about his drinking.

11. DRUG DEPENDENCE (EXCLUDING ALCOHOLISM)

This diagnosis is made when any one of the following are present. The drug type is specified according to DSM-11.

A. History of withdrawal symptoms.

B. Hospitalisation for drug abuse or its complications.

C. Indiscriminate prolonged use of central nervous system active drugs.

12. MENTAL RETARDATION

This disorder, which has different causes, is described both in terms of intellectual impairment as well as social maladaption as described in DSM-11. In view of the fact that the social adaption scales have not been standardised to the level of current intelligence tests, only the latter are used in making this diagnosis. The following criteria are used:

A. When the I.Q. is available from currently acceptable tests, the categories of DSM-11* are used.

B. In the absence of I.Q. tests, the following will be accepted as evidence of suspected mental retardation: (1) Despite continued effort an individual fails the same grade two years in succession, or (2) despite continued effort the individual fails to pass the sixth grade by the time he is 16 years old.
(Caution should be used in making the diagnosis of mental retardation in the presence of another psychiatric illness, e.g. schizophrenia, severe affective disorders, antisocial personality disorder.)

---

*I.C.D. criteria were adopted in this study.

13. ORGANIC BRAIN SYNDROME

This diagnosis is made when either criterion A or criterion B is present.

A. Two of the following manifestations must be present. (In the presence of muteness the diagnosis must be deferred.)

(1) Impairment of orientation. (2) Impairment of memory.

(3) Deterioration of other intellectual functions.

B. This diagnosis is also made if the patient has at least one manifestation (A) in addition to a known probable cause for organic brain syndrome.

14. HOMOSEXUALITY

For a diagnosis of homosexuality, A through C are required.

A. This diagnosis is made when there are persistent homosexual experiences beyond age 18 (equivalent to Kinsey rating 3 to 6).

B. Patients who fulfil the criteria for transsexualism are excluded.

C. Patients who perform homosexual activity only when incarcerated for a period of at least one year without access to members of the opposite sex are excluded.

15. TRANSSEXUALISM

In order to receive a "definite" diagnosis of transsexualism at least four of the five following manifestations must be present with at least one manifestation occurring prior to age 12. A diagnosis of "probable" transsexualism is made when three of the following manifestations are present with at least one occurring prior to age 12.

A. A persistent desire to belong to the opposite sex, with a sense of having been born into the wrong sex.

B. A strong desire to resemble physically the opposite sex by any

available means, e.g. manner of dress, behaviour, hormone therapy, and surgery.

C. A strong desire to be accepted by the community as a member of the opposite sex.

D. A negative feeling about the patient's external genitalia (breasts are included) including attempts at mutilation and a desire for surgery.

E. A negative feeling towards heterosexual activity and a persistent feeling that physical attraction to members of the same sex is not a homosexual orientation.

16. ANOREXIA NERVOSA

For a diagnosis of anorexia nervosa, A through E are required.

A. Age of onset prior to 25.

B. Anorexia with accompanying weight loss of at least 25% of original body weight.

C. A distorted, implacable attitude towards eating food, or weight that overrides hunger, admonitions, reassurances and threats; e.g. (1) Denial of illness with a failure to recognise nutritional needs, (2) apparent enjoyment in losing weight with overt manifestation that food refusal is a pleasurable indulgence, (3) a desired body image of extreme thinness with overt evidence that it is rewarding to the patient to achieve and maintain this state, and (4) unusual hoarding or handling of food.

D. No known medical illness that could account for the anorexia and weight loss.

E. No other known psychiatric disorder with particular reference to primary affective disorders, schizophrenia, obsessive-compulsive and phobic neurosis. (The assumption is made that even though

it may appear phobic or obsessional, food refusal alone is not sufficient to qualify for obsessive-compulsive or phobic disease.)

F. At least two of the following manifestations. (1) Amenorrhoea. (2) Lanugo. (3) Bradycardia (persistent resting pulse of 60 or less). (4) Periods of overactivity. (5) Episodes of bulimia. (6) Vomiting (may be self-induced).

17. UNDIAGNOSED PSYCHIATRIC ILLNESS

Some patients cannot receive a diagnosis for one or more reasons. Among the more common problems that cause a patient to be considered undiagnosed are the following: (1) cases in which only one illness is suspected but symptoms are minimal. (2) Cases in which more than one psychiatric illness is suspected but symptoms are not sufficient to meet the criteria of any of the possibilities. (3) Cases in which symptoms suggest two or more disorders but in an atypical or confusing manner. (4) Cases in which the chronology of important symptom clusters cannot be determined. (5) Cases in which it is impossible to obtain the necessary history to establish a definite diagnosis.

APPENDIX B

SCHEDULES

Hospital Admission Data Forms 'A' and 'B'

Initial (Six Months) Interview Data Schedule

Follow-up (Twelve Months) Interview Data Schedule

ADMISSION DATA FORM 'A'

Date _____ Unit No. _____

Hospital Division _____ Ward _____

Consultant _____ Inf/Comp. Section _____

Surname _____

First Names _____

Maiden Name _____

Address _____

_____ Post Code ☐☐☐☐☐☐☐

Source of Admission (e.g. G.P., Dom. Visit., other Hospital etc.)

_____ Booked/Emergency

Date of Birth _____ Place of Birth _____

Marital State _____ Religion _____

Occupation (State in full. If retired enter normal occupation before retirement. If unemployed enter last occupation.)

_____

Occupation Code ☐☐☐ Social Class ☐

If patient aged less than 18 years or never employed enter occupation of parent or guardian below.

_____

If patient is married/widowed/divorced woman, enter husband's occupation below.

_____

Employment Status (Enter normal status, whether employed or not)

Manager Foreman Self-employed Employee Not applicable

Insurance Certificate Required: Yes/No N.I. Number _____

O.A.P. Yes/No War Pension: Yes/No

Previous Psychiatric Admission (Hospital and Date):

_____

G.P.'s Name _____

Address _____

_____ Tel. No. _____

Next of Kin (Relationship) _____

Name _____

Address _____

_____ Tel. No. _____

ADMISSION DATA FORM 'B'

NAME UNIT NO.

WARD ADMITTED

METHOD: Select one item from each group. Enter appropriate number in box.

MOST RECENT PSYCHIATRIC IN-PATIENT CARE

No previous admissions	0
Royal Edinburgh Hospital	1
Other Psychiatric Hospital	2
Not known	X

TIME SINCE LAST IN PSYCHIATRIC IN-PATIENT CARE

(To be calculated from date of last discharge)

Never	0
Up to and including 1 month	1
Up to and including 3 months	2
Up to and including 6 months	3
Up to and including 1 year	4
Up to and including 2 years	5
Up to and including 3 years	6
Up to and including 4 years	7
Up to and including 5 years	8
More than 5 years	9
Not known	X
Not applicable	Y

TIME SINCE LAST IN OUT-PATIENT OR DAY PATIENT CARE

(To be calculated from date of last discharge)

Never attended	0
Attended up to an including 1 month	1
Attended up to and including 3 months	2
Attended up to and including 6 months	3
Attended up to and including 1 year	4
Attended up to and including 2 years	5
Attended up to and including 3 years	6
Attended up to and including 4 years	7
Attended up to and including 5 years	8
More than 5 years	9
Not known	X
Not applicable	Y

TOTAL TIME IN IN-PATIENT CARE: PREVIOUS 52 WEEKS

(Total number of whole weeks - Not known = XX)

WORK STATUS ☐

Unemployed	0
Working until admission	1
Off sick for up to 1 month	2
Off sick for up to 3 months	3
Off sick for up to 6 months	4
Off sick for up to 1 year	5
Retired	6
Never worked	7
Housewife	8
Other	9
Not known	X
Not applicable	Y

PATIENT'S HOUSING (re current address) ☐

Rented house	1
Owner occupier	2
Boarding house or hotel	3
Hostel	4
Other	5
Not known	X

LIVING GROUP ☐

Spouse	1
Parent(s)	2
Sibling(s)	3
Child(ren)	4
Other relative/friend	5
Lodgings/Hostel	6
Institution/Hospital	7
Alone	8
Other	9
Not known	X
Not applicable	Y

INJURIES OR POISONING CONTRIBUTING TO ADMISSION ☐

None	0
Accidental	1
Due to assault	2
Self-inflicted	3
Other causes	9

DIAGNOSIS ON ADMISSION

Principal: (Specify) _____ ☐☐☐☐

Other : (Specify) _____ ☐☐☐☐

DOCTOR'S SIGNATURE _____ Date: _____

CONSULTANT'S INITIALS _____ Date: _____

INITIAL INTERVIEW DATA SCHEDULE

Patient's Name _____ Date of Birth _____

Address _____ Date of Admission _____

_____ Date of Interview _____

CARD NUMBER 1 .. 1 [1]

HOSPITAL NUMBER: 2 3 4 5 6 7 [ ][ ][ ][ ][ ][ ]

HOSPITAL WARD: 8 [ ] 9 [ ]

00 : 1A	36: Queen's (Reh.)
01-18: 1-18	37: " (Adm.)
19 : 14A	38: " (Met.)
20 : Erskine	39: M/Drive
21 : Sinclair	40: Marchhall
22-30: 22-30	41: Craiglea Pl.
31 : Bungalow	42: U.T.A.
32 : Old Craig	43: North Wing
33 : Bevan	44: Y.P.U.
34 : South Craig	45: A/Park
35 : East Hosp.	

WARD FUNCTION: 10 [ ]
(According to R.E.H. classification)

1 Special Unit
2 Acute Admission
3 Intensive Care
4 Rehabilitation
5 Psychogeriatric
6 Research
7 Nursing Home
8 Sociopathic Unit

CONSULTANT: 11 [ ] 12 [ ]

XX	N/K	10	Kennedy, P.
YY	N/A	11	Kennedy, R.
01	Affleck	12	Murray
02	Ashcroft	13	Oswald
03	Boyd	14	Parry
04	Bruce	15	Ritson
05	Eccleston	16	Walton
06	Evans, J.	17	Whittaker
07	Forrest	18	Wood
08	Glen	19	Zealley
09	Kendell	20	Other (Specify)

SEX: 13 [ ]

N/K	Male	Female
X	1	2

AGE: 14 [ ] 15 [ ]

..... years

CITY SECTOR (re Address): 16 [ ]

X NK	1 North West
Y NA	2 North East
0 Outside Edinburgh	3 South West
	4 South East

RELIGION, Denomination: 17 [ ]

X NK	1 Agnostic
Y NA	2 Catholic
0 Atheist	3 Protestant
	4 Other

RELIGION, Practice: 18 [ ]
Code as practising when there is church attendance of at least once a month outwith religious festivals, weddings etc.

X NK 1 Practising
Y NA 2 Non-practising

SOCIAL CLASS: 19 [ ]

Occupation (on adm.) .....

MEN : Usual (or previous occupation)
WOMEN: Single, divorced and separated: usual occupation
Married and widowed: husband's occupation
STUDENTS: Father's occupation

X NK	3 S.C. III
Y NA	4 S.C. IV
0 No usual occup.	5 S.C. V
1 S.C. I	6 Other
2 S.C. II	

EMPLOYMENT STATUS (On adm.) 20

X NK
Y NA
0 Unemployed
1 Student
2 Employed Part-time: working
3 Emp. part-time: off work
4 Emp. full-time: working
5 Emp. full-time: off work
6 Housewife only
7 Retired
8 Never worked

CIVIL STATUS (On adm.) 21

X NK
Y NA
0 Single
1 Single & cohab
2 Married, with spouse
3 Sep., living apart
4 Sep. & cohab.
5 Divorced
6 Div. and cohab.
7 Widowed
8 Widowed & cohab.

LIVING GROUP (On adm.) 22
(In order of priority)

X NK
Y NA
0 N.F.A.
1 Alone
2 Spouse
3 Parent(s)
4 Sibling(s)
5 Child(ren)
6 Friend(s)
7 Lod./Inst./Hotel
8 Other Hosp./Nursing Home (>1/12)

PRESENCE OF RELATIVES 23

X NK
Y NA
1 Known to exist in Edinburgh
2 " " " elsewhere
3 Known not to exist

AGE ON ADMISSION 24 25

..... years

CHANNEL OF REFERRAL TO R.E.H. (re last referral prior to admission) 26

X NK
Y NA
0 Self
1 G.P.
2 Staff other hosp. (re Inpts)
3 Police/Court (incl. children's hearings)
4 Other agency
5 Other (specify) .....

NATURE OF ADMISSION 27

'Emergency' refers to admissions outside office hours (unless prearranged) and/or where time between referral and admission is less than 48 hours.

X NK
Y NA
1 'Emergency', no current contact with R.E.H.
2 'Emergency' in current contact
3 'Cold' (ex outpt. clinic, waiting list etc.)

CLASSIFICATION ON ADMISSION 28

X NK
1 Informal
2 Section 31
3 Other section (specify) .....

ADMISSION WARD 29 30

As for Columns 8, 9

WARD FUNCTION: 31

As for Column 10

AGE AT FIRST PSYCHIATRIC REFERRAL 32 33

Earliest known contact with psychiatric services anywhere.

..... years

AGE AT FIRST PSYCHIATRIC ADMISSION (Anywhere) 34 35

..... years

No. OF PREVIOUS ADMISSIONS (to psychiatric hospitals) 36

X NK
Y NA
0 None
1 One adm.
2 Two adms.
3 Three adms.
4 Four adms.
5 Five adms.
6 More than 5 adms.

CUM. DURATION OF PREV. ADMISSIONS (to psychiatric hospitals) 37

X NK
Y NA
0 Nil
1 Up to one month
2 " " 3 months
3 Up to 6 months
4 " " 12 months
5 " " 2 years
6 2-5 years
7. More than 5 years

PSYCHIATRIC TREATMENT (12 months prior to admission)

Total Time in Inpatient Care 38
..... weeks 39
No. of Episodes 40
..... times 41
Total Time in Day-Patient Care 42
..... weeks 43
No. of Outpatient Visits 44
..... visits 45

BRIEF PSYCHIATRIC RATING SCALE SCORES

Somatic Concern 46
Anxiety 47
Emotional Withdrawal 48
Conceptual Disorganisation 49
Guilt Feelings 50
Tension 51
Mannerisms and Posturing 52
Grandiosity 53
Depressive Mood 54
Hostility 55
Suspiciousness 56
Hallucinatory Behaviour 57
Motor Retardation 58
Uncooperativeness 59
Unusual Thought Content 60
Blunted Affect 61
62
TOTAL SCORE 63

HOSPITAL DIAGNOSIS: PRINCIPAL 64 65 66 67
Use ICD Code

HOSPITAL DIAGNOSIS: OTHER
Use ICD Code 68 69 70 71

MAIN DIAGNOSTIC CATEGORY (re Principal Hospital Diagnosis) 72
Code according to CDCS summary groups detailed at end of schedule.

X Undiagnosed and Miscellaneous
0 Senile and Presenile Dementias
1 Other Organic Psychoses
2 Schizophrenic and Paranoid States
3 Affective Psychoses
4 Other Psychoses
5 Neuroses
6 Alcoholic Disorders
7 Personality Disorders
8 Mental Defect
9 Other Organic Conditions

R.P. DIAGNOSIS: PRINCIPAL

XX NK
00 No illness
01 Primary Affective Disorders: Depression
02 " " " : Mania
03 Secondary Affective Disorders
04 Schizophrenia
05 Anxiety Neurosis
06 Obsessive Compulsive Neurosis
07 Phobic Neurosis
08 Hysteria
09 Antisocial Personality Disorder
10 Alcoholism
11 Drug Dependence (Excluding Alcoholism)
12 Mental Retardation
13 Organic Brain Syndrome
14 Homosexuality
15 Transsexualism
16 Anorexia Nervosa
17 Undiagnosed Psychiatric Illness
73 74

RE-DIAGNOSIS: OTHER 75 76
As for Columns 73, 74

ORGANIC CONDITION PRESENT (Refers to concommitant physical illness and/or dementia) 77

X NK Y NA 1 Yes 2 No

INDEX CASE NUMBER
78 79 80

CARD NUMBER 2 — 1 [2]

CHANGE OF WARD (Since admission) — 2 [ ]
0 No
1 Once
2 More than once
3 Involving transfer to other hosp.

CHANGE OF CLASSIFICATION (Since admission) — 3 [ ]
0 No
1 Yes, to informal status
2 Yes, put on order or change of order

CHANGE OF DIAGNOSIS (Since admission) — 4 [ ]
X NK
0 No
1 Yes, once
2 Yes, more than once

CHANGE OF DOCTOR-IN-CHARGE (Since admission) — 5 [ ]
X NK
0 No
1 Yes, once
2 Yes, more than once

CHANGE IN CIVIL STATUS (Since admission) — 6 [ ]
X NK
Y NA
0 No
1 Married
2 Divorced
3 Widowed
4 Other .....

TREATMENT SINCE ADMISSION
(Yes = 1 None = 0 NK = X)

E.C.T.	7	[ ]
Antidepressants	8	[ ]
Phenothiazines	9	[ ]
Minor Tranquillisers	10	[ ]
Other Psychotropic Drugs*	11	[ ]
Non-Psychotropic Drugs	12	[ ]
Night Sedation	13	[ ]
Leucotomy	14	[ ]
Psychotherapy: Individual (> 2/month)	15	[ ]
" Ward Meetings	16	[ ]
Behaviour Therapy	17	[ ]
Occupat. Therapy: In Wards	18	[ ]
In O.T. Depts.	19	[ ]
In Indust. Units	20	[ ]
Work Outside Hospital	21	[ ]

*Drugs not belonging to any of the categories listed here e.g. antiparkinsonian agents, barbiturates and anticonvulsants.

SPECIAL SERVICES USED
(Since admission)
(Used = 1 Not Used = 0 NK = X)

Psychiatric Social Worker	22	[ ]
Psychology	23	[ ]
Community Nursing	24	[ ]
Other Specialities (Med., Surg. etc.)	25	[ ]

PRESENT MAINTENANCE MEDICATION — 26 [ ]
X NK
0 None
1 P.R.N. Medication (excluding night sedation)
2 One regular psychotropic drug
3 Two or more regular psychotropic drugs

NUMBER OF VISITS (Past month) — 27 [ ] 28 [ ]

By Relatives ..... times	29	[ ]
By Others ..... times	30	[ ]

NO. OF WEEKEND LEAVES (Past month) — 31 [ ]
..... weekends

NO. OF INTERVIEWS WITH PSYCHIATRIC REGISTRAR (Past month) — 32 [ ]
..... interviews

IS PATIENT ALLOWED TO LEAVE THE WARD? — 33 [ ]
X NK
0 No
1 Yes, accompanied
2 Yes, unaccompanied

IS PATIENT ALLOWED TO LEAVE HOSPITAL? — 34 [ ]
X NK
0 No
1 Yes, accompanied
2 Yes, unaccompanied

DESIRE TO LEAVE HOSPITAL — 35 [ ]
X NK
0 Does not know
1 No
2 Yes, but ...
3 Yes, definitely
4 Other (state) .....

WARD BEHAVIOUR SCALES

Slowness of Movement	36	
Under-activity	37	
Over-activity	38	
Conversation	39	
Social Withdrawal	40	
Leisure Interests	41	
Laughing and Talking to Self	42	
Posturing and Mannerisms	43	
Threatening or Violent Behaviour	44	
Personal Hygiene	45	
Personal Appearance	46	
Behaviour at Meal Times	47	
S.E. SCORE	48	
	49	
S.W. SCORE	50	
	51	

DOCTOR'S RATINGS

Employability	52	
Accommodation	53	
Clinical Assessment	54	

CONSULTANT'S PREDICTION 55

X NK
0 Don't know
1 Will be in hospital
2 Will be out
3 Other (state)

CODING INSTRUCTIONS
MAIN DIAGNOSTIC CATEGORY (Card 1 Col. 72)
Code as follows:

Code	Main Diagnostic Category	ICD Codes
0	Senile and pre-senile dementias	290
1	Other organic psychoses	292, 293, 294
2	Schizophrenic and paranoid states	295, 297
3	Affective psychoses	296
4	Other psychoses	298, 299
5	Neuroses	300, 307, 790
6	Alcoholic disorders	291, 303
7	Personality disorders	301, 302, 304
8	Mental defect	310 to 315
9	Other organic conditions	261, 285, 286, 396, 331, 342, 344, 345, 437, 438, 440, 066, 094
X	Undiagnosed and miscellaneous	031, 306, 308, 309 and any other so far unclassified

FOLLOW-UP INTERVIEW DATA SCHEDULE

Name _____ Hospital Number _____

Place of Interview _____ Date of Interview _____

_____ Informant _____

IF EVER DISCHARGED MODE OF DISCHARGE 56

Y
X
0 Took own discharge
1 Mutual consent
2 Transferred to other hosp./nursing home
3 Other (specify) .....

ARRANGEMENTS FOR AFTERCARE 57

(a) Responsibility for aftercare

Y
X
1 By psychiatrist at R.E.H.
2 " " elsewhere
3 " PSW or H.V. at R.E.H.
4 " " " " elsewhere
5 Other hospital medical care
6 Other non-medical care
7 By G.P. only
8 None

58

(b) Setting of aftercare

Y
X
1 Inpatient
2 Day-patient
3 Out-patient
4 Domiciliary
5 None

LIVING GROUP TO WHICH DISCHARGED 59

Y
X
1 Alone
2 Spouse
3 Parent(s)
4 Sibling(s)
5 Child(ren)
6 Friend(s) or Other Relative(s)
7 Lod./Inst./Hostel/Hotel
8 Hospital/Nursing Home
9 Other (specify) .....

RELAPSE 60

Y
X
0 No relapse
1 Readmitted to the Royal Edinburgh Hospital (including Day care)
2 Readmitted elsewhere (psychiatric)

TOTAL DURATION IN PSYCHIATRIC IN-PATIENT CARE (following key admission) 61

Y
X
0 Up to 12 months
1 Up to 11 months
2 Up to 10 months
3 Up to 9 months
4 Up to 8 months
5 Up to 7 months
6 Up to 6 months (only if within one week)

ADMISSIONS TO NON-PSYCHIATRIC HOSPITALS 62

(a) Number

Y
X
0 None
1 One admission
2 Two admissions
3 More than two admissions

(b) Reason 63

Y
X
0 Parasuicide .....
1 Physical illness
2 Both .....

PSYCHIATRIC TREATMENT SINCE (FIRST) ADMISSION

Time in In-Patient Care 64 ☐

..... weeks 65 ☐

*Time in Day-Patient Care 66 ☐

..... weeks

*Number of Out-Patient Visits 67 ☐

..... visits

*Calculate average per month for the whole period outside hospital

IF DEAD 68 ☐

PLACE OF DEATH

Y
X
1 Royal Edinburgh Hospital
2 Other hospital - psychiatric
3 Other hospital - non-psychiatric
4 Nursing Home
5 At home
6 Other .....

CAUSE OF DEATH 69 ☐

Y
X
0 Suicide
1 Primary condition at admission
2 Secondary condition at admission
3 Other condition .....

PLACEMENT AT 12 MONTHS 70 ☐

Y
X
0 Died
1 In the Royal Edinburgh Hospital
2 In other psychiatric hospital
3 In other hospital or nursing home
4 In other institution .....
5 Home
6 Other .....

LIVING GROUP AT 12 MONTHS 71 ☐

Y
X
0 No fixed abode
1 Alone
2 Spouse
3 Parent(s)
4 Sibling(s)
5 Child(ren)
6 Friend(s)
7 Lod./Inst./Hotel
8 Hospital/Nursing Home
9 Other .....

EMPLOYMENT STATUS AT 12 MONTHS 72 ☐

(If 65 years or over code 7)

Y
X
0 Unemployed
1 Student
2 Employed part-time: working
3 Employed part-time: off work
4 Employed full-time: working
5 Employed full-time: off work
6 Housewife only
7 Retired

CIVIL STATUS AT 12 MONTHS 73 ☐

Y
X
0 Single
1 Single and cohabiting
2 Married, with spouse
3 Separated, living apart
4 Separated and cohabiting
5 Divorced
6 Divorced and cohabiting
7 Widowed
8 Widowed and cohabiting

INCOME AT 12 MONTHS 74 ☐

Y
X
0 No gainful means or unearned income
1 Drawing own pension/unemployment or sickness benefit
2 Gainfully employed

CLASSIFICATION AT 12 MONTHS 75 ☐

Y
X
1 Informal
2 Section 31
3 Other section .....

78 79 80

INDEX CASE NUMBER ☐☐☐

CARD NUMBER 3 1 3

PHYSICAL STATE AT 12 MONTHS 2

Y
X
0 Requires constant supervision, nursing or physical care
1 Requires some supervision, nursing or physical care
2 Requires no supervision, nursing or physical care

LEVEL OF ACTIVITY AT 12 MONTHS 3

Y
X
0 Inactive for most of the time
1 Shows moderate spontaneous activity
2 Normally active

OCCUPATIONAL FUNCTIONING AT 12 MONTHS 4

Code according to instructions at end of schedule

Y
X
0 Does little or no useful work
1 Able to do some work (with/w.out supervision)
2 Functions at normal or near normal level

SUPPORTIVE GROUP AT 12 MONTHS 5

(If in hospital code as 0)

Y
X
0 Lives isolated from family and friends
1 Lives with/near relative(s)/close friend(s)
2 Lives with/near spouse or family group

SOCIAL FUNCTIONING AT 12 MONTHS 6

Average weekly visits to family, friends or clubs made during past month

Y
X
0 Less than once a week
1 Once or twice a week
2 More than twice a week

CURRENT PSYCHIATRIC TREATMENT

Number of visits (interviews) during the past 2 months by/to

Psychiatrist ..... visits 7

Clinical Psychologist ..... visits 8

P.S.W./H.V. ..... visits 9

G.P. ..... visits 10

FORMAL PSYCHOTHERAPY (Individual) 11

Y
X
0 None
1 Once every 2 weeks
2 Once a week
3 More than once a week

FORMAL PSYCHOTHERAPY (Group) 12

Y
X
0 None
1 Once every 2 weeks
2 Once a week
3 More than once a week

BEHAVIOUR THERAPY 13

Y
X
0 None
1 Once a month
2 Once every 2 weeks
3 Once a week
4 More than once a week

PSYCHOTROPIC DRUGS - LONG ACTING 14

Y
X
0 None
1 Phenothiazines
2 Lithium
3 Other (specify) .....

For the following Yes = 1,
None = 0, N.K. = X

E.C.T.	15	
Antidepressants	16	
Phenothiazines	17	
Minor tranquillizers	18	
Other Psychotropic drugs	19	
Non-psychotropic drugs	20	
Night sedation	21	

BRIEF PSYCHIATRIC RATING SCALE

Somatic Concern	22	
Anxiety	23	
Emotional Withdrawal	24	
Conceptual Disorganisation	25	
Guilt Feelings	26	
Tension	27	
Mannerisms and Posturing	28	
Grandiosity	29	
Depressive Mood	30	
Hostility	31	
Suspiciousness	32	
Hallucinatory Behaviour	33	
Motor Retardation	34	
Uncooperativeness	35	
Unusual Thought Content	36	
Blunted Affect	37	
	38	
TOTAL SCORE	39	

DIAGNOSIS AT 12 MONTHS: PRINCIPAL

XX NK
00 No illness
01 Primary Affective Disorders: Depression
02 " " " : Manla
03 Secondary Affective Disorders
04 Schizophrenia
05 Anxiety Neurosis
06 Obsessive Compulsive Neurosis
07 Phobic Neurosis
08 Hysteria
09 Antisocial Personality Disorder

Diagnosis at 12 months: Principal - cont.

10 Alcoholism
11 Drug Dependence (excluding Alcoholism)
12 Mental Retardation
13 Organic Brain Syndrome
14 Homosexuality
15 Transsexualism
16 Anorexia Nervosa
17 Undiagnosed Psychiatric Illness 40 41

OTHER

As for Columns 40, 41 42 43

WARD BEHAVIOUR SCALES

Slowness of Movement	44	
Under-activity	45	
Over-activity	46	
Conversation	47	
Social Withdrawal	48	
Leisure Interests	49	
Laughing and Talking to Self	50	
Posturing and Mannerisms	51	
Threatening or Violent Behaviour	52	
Personal Hygiene	53	
Personal Appearance	54	
Behaviour at Meal Times	55	
	56	
S.E. SCORE	57	
	58	
S.W. SCORE	59	

HOSPITAL WARD

00	: 1A	36: Queen's (Reh.)	
01-18	: 1-18	37: " (Adm.)	
19	: 14A	38: " (Met.)	
20	: Erskine	39: M/Drive	
21	: Sinclair	40: Marchhall	
22-30	: 22-30	41: Craiglea Pl.	
31	: Bungalow	42: U.T.A.	
32	: Old Craig	43: North Wing	
33	: Bevan	44: Y.P.U.	
34	: South Craig	45: A/Park	60 61
35	: East Hosp.		

INDEX CASE NUMBER 78 79 80

CODING INSTRUCTIONS

OCCUPATIONAL FUNCTIONING AT 12 MONTHS (Card 3, Col. 4)

Code as follows:

(A) In Hospital

2 Attends industrial rehabilitation unit, works outside the hospital or (if student) goes to school.
1 Participates in departmental occupational therapy and/or industrial therapy (includes working on wards).
0 Does not participate in occupational therapy or only in wards.

(B) Outside Hospital

(1) Students:

2 Attends school
0 Does not attend school during term time

(2) Housewives:

2 Shops, provides at least 2 meals a day and cleans the house at least once a week.
1 Does only one of these satisfactory or all three unsatisfactorily.
0 Does not provide meals or look after the house

(3) Others:

2 Gainfully employed (part- or full-time) or unemployed but actively seeking employment.
1 Attends industrial rehabilitation unit, does restricted work or in sheltered employment.
0 Does not do any work.

APPENDIX C

TABLES

Additional Tables Referred To In Text

Admission Variables Significantly Related to Remaining in Hospital for Six Months in Those Aged Under 65 Years

Variable			Short-stay patients	Six months (%) sample
(1) Marital Status				
Single			528	44 (8)
Married			696	19 (3)
Divorced/Separated			220	6 (3)
Widowed			89	3 (3)
	$X^2 = 20.77$	df 3	p<0.001	
(2) Living Group				
Spouse			640	11 (2)
Other first degree relative			375	35 (9)
Alone			231	9 (9)
All other			218	14 (6)
	$X^2 = 28.48$	df 3	p<0.001	
(3) Work Status				
(a) Men:				
Unemployed or never worked			278	22 (8)
Working until admission			251	2 (1)
Off sick			134	4 (3)
Retired			15	3 (17)
	$X^2 = 20.91$	df 3	p<0.001	
(b) Women:				
Unemployed or never worked			155	10 (6)
Working until admission			198	1 (0.5)
Off sick			93	7 (7)
Housewife only			278	8 (3)
Retired			21	1 (5)
	$X^2 = 12.02$	df 4	p<0.02	
(4) Legal Status				
Informal			1441	60 (4)
Compulsory			92	12 (12)
	$X^2 = 12.59$	df 1	p<0.01	
(5) Admission Ward Function				
Acute admission			943	31 (3)
'Special unit'			470	19 (4)
Rehabilitation			28	13 (32)
Psychogeriatric			1	4 (80)
Other			90	5 (5)
	$X^2 = 79.48$	df 4	p<0.001	

Variable	Short-stay patients	Six months (%) sample
(6) Time in Inpatient Care Previous 12 Months		
Nil	982	41 (4)
Up to one month	242	7 (3)
More than one month	203	17 (8)
$X^2 = 7.39$ df 2	p<0.05	
(7) Principal Admission Diagnosis (ICE Code)		
Alcoholism (303)	341	3 (1)
Affective psychosis (296)	236	13 (5)
Neuroses (300)	228	6 (3)
Schizophrenia (295)	185	17 (8)
Personality disorders (301)	159	5 (3)
Transient situational disturbances (307)	94	7 (7)
Other neurotic disorders (302,4,5,6,8,9)	74	4 (5)
Other psychoses (298,9)	58	1 (2)
'Depression' unspecified (790)	34	1 (3)
Psychoses with physical condition (293,4)	31	2 (6)
Paranoid states (297)	29	3 (9)
Alcoholic psychosis (291)	21	2 (9)
Mental retardation (310-15)	12	0 (0)
Senile and presenile dementia (290)	4	5 (56)
Other non-psychiatric conditions	16	3 (16)
All diagnoses	1552	72 (5)

Admission Variables Significantly Related to Remaining in Hospital for Six Months in Those Aged 65 Years or Over

Variable	Short-stay patients	Six months (%) sample
(1) Age on Admission		
65-74	153	36 (19)
75+	78	53 (40)
$X^2 = 16.62$ df 1 p<0.001		
(2) Previous Psychiatric Care		
None	112	59 (35)
At R.E.H.	113	28 (20)
At other hospital	13	1 (7)
$X^2 = 11.28$ df 2 p<0.01		
(3) Admission Ward Function		
Acute admission	121	8 (6)
'Special unit'/rehabilitation	29	1 (3)
Psychogeriatric	63	77 (55)
Other	27	4 (13)
X^2 =		
(4) Principal Admission Diagnosis (ICD Code)		
Senile and presenile dementia (290)	45	46 (51)
Affective psychosis (296)	67	5 (7)
Psychosis with cerebral condition (293)	12	11 (48)
Other psychoses (298,9)	13	5 (28)
Neuroses (300)	15	0 (0)
Personality disorders (301)	11	2 (15)
Paranoid states (297)	9	4 (31)
Alcoholism (303)	11	0 (0)
Schizophrenia (295)	10	0 (0)
'Depression' unspecified (790)	8	2 (20)
Psychosis with physical condition (294)	7	0 (0)
Alcoholic psychosis (291)	4	2 (33)
Transient situational disturbances (307)	4	0 (0)
Other disorders with physical condition (309)	2	1 (33)
Mental retardation (310-15)	1	0 (0)
Other non-psychiatric conditions	6	6 (50)
All diagnoses	225	84 (27)

The General Psychiatric Patient: Comparing the Medium and Long-stay (Results Section D)

Variable			Medium-stay	Long-stay (%)
(1) Age on Admission				
15-34			14	11 (44)
35-64			16	15 (48)
65+			3	17 (85)
	$X^2 = 8.99$	df 2	p<0.02	
Mean Age ± S.D.			41.91 ± 17.23	52.07 ± 20.20
	t = 2.36		p<0.05	
(2) Employment Status on Admission				
Unemployed			15	26 (63)
Student			2	0 (0)
Employed - working			7	0 (0)
Housewife only			7	11 (61)
Retired			2	6 (75)
	$X^2 = 13.71$	df 4	p<0.01	
(3) Admission Ward Function				
'Special unit'			9	0 (0)
Acute admission			17	15 (47)
Rehabilitation			0	11 (100)
Psychogeriatric			3	13 (81)
Other			4	4 (50)
	$X^2 = 25.47$	df 4	p<0.001	
(4) Ward Function at Six Months				
'Special unit'			11	0 (0)
Acute admission			7	14 (67)
Rehabilitation			7	14 (67)
Psychogeriatric			2	13 (87)
Other			6	2 (25)
	$X^2 = 24.78$	df 4	p<0.001	
(5) 'Other' Psychotropic Drugs Received				
Yes			23	19 (45)
No			10	24 (71)
	$X^2 = 3.94$	df 1	p<0.05	
(6) Work Outside Hospital				
Yes			11	3 (21)
No			22	40 (65)
	$X^2 = 6.97$	df 1	p<0.01	

Variable	Medium-stay	Long-stay (%)
(7) Social Worker Involved		
Yes	27	23 (46)
No	6	20 (77)
$X^2 = 5.46$ df 1	p<0.02	
(8) Freedom to Leave Ward at 6/12		
Restricted	1	0 (0)
Allowed if accompanied	2	14 (88)
Allowed unaccompanied	29	27 (48)
$X^2 = 9.10$ df 2	p<0.02	
(9) Weekend Passes Obtained During 6th Month		
0	17	34 (66)
1-3	4	5 (55)
4	12	4 (25)
$X^2 = 8.54$ df 2	p<0.02	
(10) Desire to Leave Hospital at 6/12		
Undecided	0	3 (100)
No	6	7 (54)
Yes, conditional	14	6 (30)
Yes, definitely	7	21 (75)
$X^2 = 12.00$ df 3	p<0.01	
(11) Accommodation Rating at 6/12		
0 Available and suitable	11	0 (0)
1 Available, not suitable	9	10 (53)
2 Unavailable but pt. on waiting list	5	17 (77)
3 Unlikely to be found	5	10 (67)
$X^2 = 18.67$ df 3	p<0.001	
(12) Employability Rating at 6/12		
Employable -		
0 work available	6	0 (0)
1 work unavailable	3	2 (40)
2 Likely after rehabilitation	12	12 (50)
3 Unlikely	7	27 (79)
$X^2 = 16.07$ df 3	p<0.01	
(13) Form of Care Required at 6/12		
0 None	1	1 (50)
1 Day or outpatient	14	3 (18)
2 Inpatient	12	13 (52)
3 Permanent institutional	3	24 (89)
$X^2 = 22.27$ df 3	p<0.001	

Variable	Medium-stay	Long-stay (%)
(14) Consultant's Prediction at 6/12		
Will become long-stay	9	31 (78)
Will not become long-stay	20 (74)	7
$X^2 = 15.42$ df 1	p<0.001	
(15) Receiving Phenothiazines at 12/12		
Yes	8	26 (76)
No	23	17 (43)
$X^2 = 7.37$ df 1	p<0.01	
(16) Occupational Functioning at 12/12		
0 Does little useful work	8	25 (76)
1 Able to do some work	9	18 (67)
2 Normal functioning	13	0 (0)
$X^2 = 23.18$ df 2	p<0.001	